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Original Articles.

PRINCIPLES OF POSTURE.

FIRST PAPER.

BY MABEL ELSWORTH TODD, BOSTON.

FOREWORD.

BY E. G. BRACKETT, M.D., BOSTON.

THE significance of the normal posture, and the importance of the part that it plays in the preservation of health need no emphasis at this time, certainly to the medical profession, and hardly to the people in general. However, in the wide interest and enthusiasm which has come in the recognition of the need of attention to this subject, there is much to be learned in the practical standardization in the determination of what the true normal posture may be, and in the methods of attaining this, particularly in the correction from the abnormal. It is also clear that much in the more popular methods of posture correction needs revision, as well as in the conception of what the normal posture should be, and we are therefore glad to welcome the results of the study and experience of those who have been for a

long time devoting themselves to this important subject.

Miss Todd, whose communication follows, has devoted her time for many years to this subject, and has formulated certain principles of true posture and methods of working to this end which deserve the study and discussion of those definitely interested in this work. It is not possible that all of the theories and methods which are presented by Miss Todd will have complete acceptance; there is yet too much to learn in the subject for a uniformity of opinion, but so much of truth, combined with common sense is in this that we are grateful to add to our knowledge from the experience she has gained.

THE subject of posture is so intricate and so closely related to the functioning of every part and organ of the body that we cannot approach it with too much respect. In this paper I shall consider it in its aspect to adjustment of the weight of the body at rest. It is important to start with correct position at rest, in order to attain proper coördination of muscles when the body is in motion.

It is essential to find the posture which will secure to the entire mechanism the greatest unity of force with the least expenditure of effort. In every posture assumed to be true

three tests should be required,—first, does it make for mechanical freedom; second, is it true to anatomical fact; third, does it establish better functioning to one or more organs? Any rigidity in a structure made up of articulated parts prevents coördinate action. Without coördinate action in the human frame the muscles have lost much of their freedom, and normal functioning, therefore, is impossible.

Gravity is recognized as an elementary force. It acts upon the structure as a whole and also upon each separate part. Faulty adjustment in relation to this law causes interference with the proper reaction of articulated parts and free coördination of the muscles. The deeper we study the subject of mechanics, and of posture, the more we realize how far reaching this effect is upon the entire organism.

Place on one side of an evenly balanced rod a fifty-pound weight. If you wish to retain the equilibrium of the rod you must either place the same weight on the opposite side, or apply your own energy to the amount of fifty pounds pressure.

Move the fifty-pound weight back to the center of the rod and no effort is required to hold it up. It is balanced.

Mechanical law explains that the nearer to center weight is maintained, the less expenditure of energy is required to keep it in equilibrium. It is evident, therefore, that if we discover the position of the best mechanical advantage, this position must correspond with anatomical facts. If the mechanical advantage and the anatomical fact are found in the adjustment, it must follow that every organ of our body would have the most normal functioning possible, and energy, therefore, would not be wasted.

Let us place three granite blocks in a perpendicular alignment. If the median line of the structure passes directly through the center of the weight of each block, gravity will then exercise an equal pull upon the parallel sides of each block. Swing the weight of one of these blocks out of its relationship to the center of the whole. If it has to be held in that position a power foreign to itself must be applied. Refer to fifty pound block.

In the human structure the three principal groups of weight are the skull, the thorax, and the pelvis; if these are balanced at center in relation to the median line, all parts of the articulations will be subject to equal weight,

hence there will be no unequal strain upon ligaments or muscles. If any one of these three bony blocks is not supported at the center of the structure it will require muscular effort to maintain it in the position out of that alignment. There is a natural alignment of all the bones to each other. If this natural relationship is disturbed it produces an unequal pull upon muscles and ligaments. Hence, any attempt to hold bones out of their natural alignment involves an unnecessary strain and a waste of energy.

If the center of the weight of each of the three bony "blocks" is maintained at the median line of the structure there would be an equal distribution of energy in the muscles around the entire surface of the wall of each "block." Thus by balancing the weight of the thorax at the center of the structure, the least muscular effort is required and the diaphragm and the intercostal muscles are thereby freed for normal functioning. An elevated sternum swings the weight of the thorax forward from its natural alignment in relation to the pelvis and the skull, and inequality of muscular action is the result; this position forces the shoulders back, thus pulling the weight of the shoulders and the weight of the thorax in opposite directions. The diaphragm has thus lost its normal alignment and its functioning, therefore, will be limited. The muscular attachments around the scapula are also contracted to maintain the pull. The ribs in the back are pushed down, crowding the area around the dorsal vertebrae, and the clavicle pressing upon the first rib produces added strain in the dorsal spine. Assuming that the thoracic weight is perfectly balanced, there will be no muscular effort to hold the sternum in a fixed position and the ribs are thereby released.

The position of the shoulder should next be considered. The particular function of the shoulder-girdle is to protect the thoracic wall from the weight and strain of the shoulder and arm structure and the movements thereof. This is attained only when the clavicular attachment at the sternum is free. This being the only bony articulation between the shoulder-girdle and the thoracic wall, equality of muscular action at this point is important. With the clavicular articulation free, freedom can be attained for all muscles of the shoulder-girdle, and the shoulder-girdle can thus be made to protect the ribs and the spine from the manifold



PLATE Ia—1895-1900.
(From *The Delineator*.)



PLATE IIb—Military.



PLATE I AND IIc—Military.



PLATE IIIa—1920.
(From *Vogue*.)



PLATE IIIb—1920.

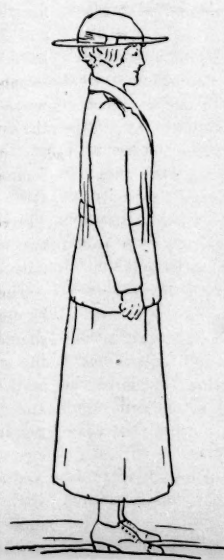


PLATE IVa—Balanced.



PLATE IVb—Balanced.

activities of the arm. Freedom of action of the muscular attachments of the clavicle and spina scapulae would give breadth to the shoulder-girdle, and bring the acromion directly above the median line of the ribs at sides, thus protecting the ribs from the irregular contractions of the arm and shoulder muscles. This position of the shoulder-girdle would be similar to the wooden yoke on which the Hollanders carry their water pails.

By this adjustment the vertebral border of the scapula will assume its normal alignment to the dorsal angle of the ribs, *i.e.*, the perpendicular line of the dorsal angle of the ribs and the vertebral border of the scapula will be parallel. The ribs will thus be freed from uneven pressure of clavicle and scapula, and equalized pull of all muscles of shoulder is attained. With the clavicular articulation free, the humerus will hang directly under the acromion, with equal pull on all muscular attachments between the arms and the ribs. The arms will thus hang in line with the crests of the ilia. This position insures freedom for the action of the lungs and the heart, and for proper flexibility of the dorsal spine. Any muscular effort to hold the chest wall and shoulder superstructure out of this normal alignment in relation to each other is interfering with the freedom of muscular action for normal functioning of thoracic contents.

If there is no antagonizing pull between the shoulders and the chest, the diaphragm is free to functionate normally, *i.e.*, to deepen the cavity of the chest, and to stimulate peristalsis. There will be greater freedom for the action of the intercostal muscles at the dorsal angle of the ribs, thereby securing larger capacity to the back of the lungs. The lung expansion cannot be complete in a fixed or tense wall; the mobility of the ribs must be retained at both their extremities, the spine and the sternum.

A fixed position of any of the articulations of the body out of their natural alignment necessitates compensatory action to relieve the strain. If this compensatory action falls upon a part of the structure where normally no movement should be induced (such as the sacro-iliac) there is an inequality of muscular action and a friction imposed upon all adjoining parts.

The particular articulations which are the most important for normal posture are femur

with pelvis, ilium with sacrum, sacrum with fifth lumbar; to these must be added, of course, the position of the sternum and of the clavicles. Of the first three, only one is a legitimate joint. The head of the femur in its relation to the acetabulum is the articulation on which the muscular coördination between the torso and the legs depends. Any loss of freedom in this joint imposes compensatory movement at the fifth lumbar and a strain on the sacro-iliac due to the inequality of muscular pull.

A lifted sternum and forward thorax increases the lordosis of the lumbar spine, thus stretching the abdominal wall and increasing the obliquity of the pelvis, thereby removing part of the support of the fifth lumbar and increasing its tendency to slide forward on the sacrum. This increases ligamentous tension and prevents muscular freedom of all pelvic muscles. If the center of the pelvis is directly under that of the thorax and of the head, we have the median line passing through each. The relation of the sacrum to the fifth lumbar will then be equal in pressure around the entire area of the articulating contact. This allows the pelvis to assume a normal position. When the normal position of the pelvis is maintained the quadratus lumborum and psoas muscles assume their normal responsibilities and the muscles of the pelvic floor will also have equality of action. The normal muscular support of the femur in the acetabulum will be the result, *i.e.*, the psoas and the iliacus at the front and the pyriformis and the obturators at the back will have equal pull upon the femur. The head of the femur will then be free in its articulation with the acetabulum. This insures normal muscular coördination between legs and torso without disturbing the natural alignment of pelvis.

The weight of the skull upon the atlas should be perfectly balanced. The occipital condyles should rest evenly upon the superior articulating surface of the atlas. This attains a balanced and equalized relationship between the atlas and cervical vertebrae, thus giving normal perpendicular alignment to all supporting muscles at the base of the skull. In this balanced position of the skull the forehead will be slightly in advance of the chin. The perfect poise of the head would be the natural result of the normal alignment of the pelvis and the thorax, through the equalized maintenance of

the muscles supporting these parts, and through the reaction of the normal curves of the spine, *i.e.*, if the lordosis of the lumbar spine is reduced the cervicle spine assumes a more perpendicular position. It is impossible to correct one part of the body without influencing its reflex.

In the following plates are shown the abnormal adjustments forced upon the bony structure by the varying posture of the past twenty years. Nos. 1, A, and 3 A and B.

Plates No. 4, A and B, show the result of maintaining a well balanced position.

When there is effort to maintain the weight of an integral part of a structure out of its alignment with the whole, equalized coördination between all parts is lost. This interdependence of all articulating parts of the human structure requires a close study of the relationship of the articulations to each other, before normal adjustment of the whole can be attained. Reaction between parts is constant, due to the varying adjustment of weight to the median line of the structure. Therefore to correct one part, one must note the relationship of all others, or friction will be the result. In assuming this attitude toward body mechanics, definite, specific proof must be ascertained of the mechanical, anatomical, and physiological advantage of certain positions over others that might appear on the surface to be equally good.

Most of us waste daily more energy than we use. Every man considers a waste of fuel in running his automobile a crime against his pocket-book. It is no less a crime against our organism to waste energy through mechanical misadjustment, *i.e.*, such adjustments as would necessarily produce greater friction in the organism in performing its functions.

The special features to be emphasized in summary are:

First, balance of weight of pelvis, thorax and skull;

Second, position of shoulders and sternum;

Third, relation of head of femur to acetabulum;

Fourth, the position of the fifth lumbar.

BODILY MECHANICS AND MEDICINE.*

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THE term bodily mechanics was chosen instead of faulty posture because faulty posture is only one of the results which may occur when the human body, considered from a mechanical point of view, begins to get out of line. It may be and often is one of the first symptoms to occur and may be present without any immediate effects in much the same way that carious teeth and adenoids and constipation and many another condition may exist for an indefinite time without any ill effects. Because our attention has been brought to the condition of the eyes and the teeth so much in the last few years we are all paying much more heed to the possible effects of eyestrain and poor teeth than we ever used to do. These are only a part of the whole human body or mechanism and is it not important that we pay attention to the machine as a whole as well as look after some of the small but important adjustments?

The reason why no attention has been given to the question of the mechanics of the body is that very few people agree as to what is good mechanics and what is not. One doctor will say that he himself has always been very round-shouldered and pot-bellied and that he has never had any trouble and that he knows lots of men who are the best athletes who have even worse posture than he has and who never have any trouble. Also, that they know people who hold themselves very well, who are much of the time under the doctor's care or are not well enough to do one half of the work that they should do. All of this is perfectly true but it does not change the fundamental principle which is involved in the mechanics of the human body. This principle is that the use of the body in faulty mechanical alignment is always a potential of trouble. As Dr. Lee has aptly expressed it, those people "with a bad mechanical use of their bodies who are without symptoms, may well be regarded as having compensated for their defects in the same way that we speak of a compensated heart lesion. The majority of individuals with heart disease have for a considerable period no symptoms attributable to their heart. Likewise it is ex-

pected that the cases of poor mechanical use of the body will have for a considerable period in the future no symptoms attributable to that poor use. It is likely, furthermore, that, as in the case of the compensated heart lesions, many individuals will continue their compensation throughout life. Indeed they may never be conscious of any defect."

As was stated above, there is much difference of opinion as to the correct mechanical use of the body. The reason for this is because there is no standard on which we can base our opinions. In the anatomical room we learn the so-called normal anatomy, but when we get outside we soon discover that we rarely meet with the anatomical room normal, but that we see a great number of variations which seem to us to be perfectly normal although they may differ very markedly from each other. In other words, we all get a method of classifying our cases into certain groups. There will be a very large group of ptosis cases all of whom have a very typical build, the long, slender-body and by x-ray a perfectly typical long tubular stomach and hepatic and splenic flexures which may be down below the crests of the ilia. At the other extreme we find the relatively short-bodied, thick-set individual who by x-ray shows an entirely different shape of stomach and flexures. This individual is also subject to different kinds of complaints than are found in the so-called ptotic patient. There is also an intermediate very large group which may be called a neutral type, and are what we studied in the anatomy room as the normal. They are normal for their type but there is also a normal for the thin type as well as for the heavy type and what is normal for one is not the normal for the other. Just as there are differences in the outside shape of the body and in the shape of the abdominal organs themselves, so will there be a difference in the shape of the bony structures. For example, in the thin type we find in the spine, vertebrae and vertebral articulations which allow a great range of motion, while in the heavy type, the vertebrae and vertebral joints are so shaped that the range of motion is relatively slight. The practical point to be learned from this is that the thin type may show much more marked degrees of faulty postures than the heavy type but from the mechanical point of view the strain may be equally great in either. The thin type being structurally less strong is prone to more

faulty mechanical alignments than are the neutral and the heavy types.

The question now comes up, how can one know what is good and what is bad mechanics? In order to get some definite data to work on, it seemed wise to examine a sufficient number of so-called normal men to give one a point of view. Therefore through the kindness of Dr. Lee an opportunity was given in 1916 to examine all the men of the freshman class at Harvard. This examination was done at the same time as the regular physical examination that is given to every man of the freshman class. The examination consisted of taking a tracing of every man as he stood in a natural standing position. When these tracings were collected and studied, they were found to fall rather naturally into four groups, which for convenience were arbitrarily designated A, B, C and D. We called the groups A and B good and fairly good bodily mechanics, and C and D bad and very bad bodily mechanics. (See Figure 1.) There were four points by which we classified the groups. These were as follows: In the A group, first the position of the head. The head is straight above the chest, hips and feet. Second, the chest is up and forward. Third, the abdomen is in or flat, and fourth, the curves of the back are not exaggerated. In the B group we see certain changes which are the first to come and in this group are not marked. First, the head is beginning to be farther forward; second, the chest is not so well up and forward, a condition which must mechanically occur when the head goes forward, because the forward position of the head necessarily relaxes those muscles which arise from the skull and the cervical spine and attach to the sternum and ribs; third, abdomen shows little or no change; and fourth, the curves of the back show little or no change. In the C group the changes from the A group are much more marked. First, the head is now forward of the chest; second, the chest is flat; third, the abdomen is relaxed and is now in front of the chest; and fourth, the curves of the back are all exaggerated. In the D group we find all of the conditions noted in the C group are still more marked. First, the head is still farther forward; second, the chest is flatter; third, the abdomen is entirely relaxed and is much anterior to the chest; and fourth, the back curves are exaggerated to the extreme.

HARVARD UNIVERSITY, DEPARTMENT OF HYGIENE.
THE RIGHT WAY; THE WRONG WAY. WHERE DO YOU FIT?
Tracings made during examination of 700 Harvard Freshmen.

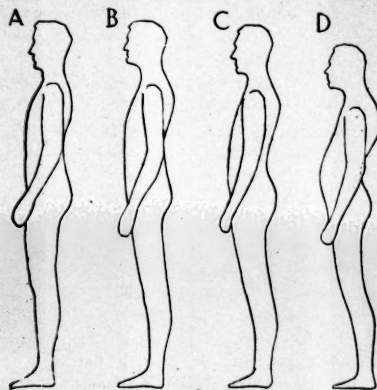


FIGURE 1.

Group A 7.5%
Good Mechanical Use of the Human Body.

1. Head straight above chest, hips, and feet.
2. Chest up and forward.
3. Abdomen in or flat.
4. Back usual curves not exaggerated.

Group B 12.5%
Fairly Good Mechanical Use of the Human Body. Note changes from Group A.

1. Head too far forward.
2. Chest not so well up or forward.
3. Abdomen very little change.
4. Back very little change.

Group C 55%
Bad Mechanical Use of the Body. Note changes from Group A.

1. Head forward of chest.
2. Chest flat.
3. Abdomen relaxed and forward.
4. Back curves are exaggerated.

Group D 25%
Very Bad Mechanical Use of the Body. Note changes from Group A.

1. Head still farther forward.
2. Chest still flatter and farther back.
3. Abdomen completely relaxed. "Slouchy."
4. Back all curves exaggerated to the extreme.

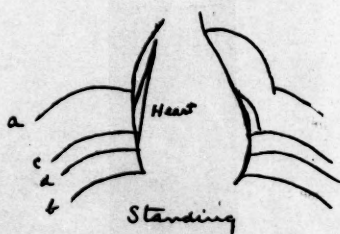


FIG. 2a.—Fluoroscopic Tracing of the Diaphragm of an "A" Man in the Standing Position.

- a. Position of diaphragm at full expiration.
- b. Position of diaphragm at full inspiration.
- c. Position of diaphragm at normal expiration.
- d. Position of diaphragm at normal inspiration.

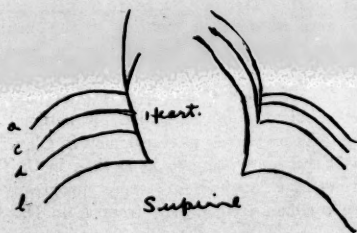


FIG. 2b. Same as Fig. 2a, Except that the Man Was Lying on His Back.



FIG. 3a.—Fluoroscopic Tracing of the Diaphragm of a "D" Man (Fig. 5) in Standing Position.

Note the small amount of excursion between full inspiration and full expiration. Note the very small amount of excursion in normal breathing and that this takes place at the position of almost full inspiration, the lowest point of the diaphragm.

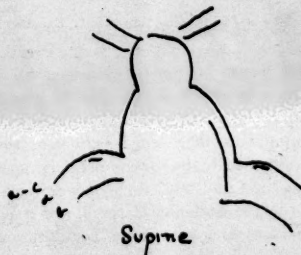


FIG. 3b.—Same as Fig. 3a, except that the Man is Supine. Note that the position of normal breathing has changed from the lowest point, where it was in the standing position, to the highest point or that of full expiration.



FIG. 4a.—Photograph of a Man 66 Years Old. (See text.)



FIG. 4b.—Same as Fig. 4a, After Three Months' Education in Bodily Mechanics. (See text.)



FIG. 5a.—Photograph of a "D" Man. Chief Complaint, Constipation, Headache, etc.



FIG. 5b.—Same as Fig. 5a, After Three Months Education in Bodily Mechanics.

There were 746 men examined. 7.5% of these were in the A group, 12.5% were in the B group, 55% in the C group, and 25% in the D group. In other words, 20% of the men used their bodies in good or fairly good mechanical lines and 80% were bad or very bad.

In order to find out if there was a possible relation between the above classification and the physical findings and symptoms the statis-

tics were studied in relation to the medical findings. This study showed that no man in Class A or B complained of backache, while over 6% of Class C and over 8% of Class D gave a history of backache. Functional albuminuria was much more common in Classes C and D and more common in D than in C. Operations for appendicitis were progressively more common as one went from A to D. On



FIG. 6a.—Tracing of a Child of Four Years. Sent to Posture Clinic for Cyclic Vomiting.

the other hand, the removal of the tonsils and adenoids which was done as a rule in early life, occurred rather more frequently in the A and B groups.

Last fall, 1919, a similar examination to that of 1916 was again carried out. This time, however, the bodily mechanics was computed by two criteria; first, how the individual used his body in standing, judging not only from the position which he assumed naturally, but also from the position he assumed upon being directed to put forth his best efforts; and secondly, how the individual used his feet. This examination was done by six physicians who made the complete physical examination. The grading of these several physicians was remarkably uniform and while there was undoubtedly individual variation, the factor of personal equation seems to have been very slight. The complete classification of the 513 freshmen was as follows: A, .97%; B, 14.8%; C, 49.3%; D, 34.8%.—

A comparison of this classification with the medical findings showed that in the group graded D on account of the feet, slightly over half had a history of trouble either in the past or at the present. Usually, however, the compensation was fair for ordinary activity. Like the 1916 experience, the A and B men did not give histories of backaches, but there was a



FIG. 6b.—Same as Fig. 6a Five Months Later. The Bodily Mechanics are not Perfect, but there is a Marked Change for the Better. (See text.)

definite percentage among the C and D groups, being nearly 10% in the D group which was higher than the C group. Functional disturbances, such as tachycardia, instability of the systolic blood pressure, etc., were most common in the students classified as D. Also the frequency of constipation, headache, etc., was greater in the D group than in any other. This year a more comprehensive study was made of those cases which showed albuminuria. Forty cases of albuminuria, or 7.7%, were found. These cases were all followed, repeated examinations were made, and finally there remained seven cases of persistent albuminuria, apparently all of the same type, namely that they had albuminuria during the active part of the day, but did not have it when resting in bed. Six of these seven cases were found to have been classified in the D group and one in the C.

The relation between such faulty mechanical use of the body as seen in the D group and the findings which have just been given is of course very obscure at the present time and until some scientific experimental work, which takes into account the possible effects of good and bad mechanical use of the body on the

physiology of the body is done, it will remain in doubt. However, it is of interest to consider what may be some of the effects of faulty mechanics. We can see from the chart (Figure 1) what the effects are on the outside shape of the body, as, for example, the D man. The fluoroscope makes it possible to see some of the inside effects. Take for example the diaphragm. This tracing (see Figure 2 a) shows the diaphragm of an individual who would be classified as A. Note first the amount of excursion there is between full expiration (a) and full inspiration (b). Note also the amount of excursion that is present in the ordinary breathing; that the position where this breathing takes place in relation to the extremes of the diaphragmatic excursion is about half way between the two. Compare these findings to what is found in an individual of the D group as is seen in this tracing (see Figure IIIa). Note first the relatively small excursion of the diaphragm at the extremes of expiration and inspiration. Secondly, the very small amount of excursion in the ordinary breathing and that this breathing takes place at practically the lowest position of the diaphragm. It does not seem illogical to think that this very small excursion may have a very definite effect on the abdominal circulation since the pumping action of the diaphragm is one of the big factors in emptying the abdominal veins, especially in the upright position. The effect of change of position of the body from the upright to the lying is shown in these tracings (Figure IIb). In the A man but little change is found in the relative position of the diaphragm to the spine and sternum while in the D man (Figure IIIb) it will be seen that the diaphragm as a whole has relatively taken a much higher place than in the standing position. It will also be seen that the place where the ordinary breathing takes place has changed but slightly in the A man while in the D man it has gone from the lowest to nearly its highest point. It was interesting in carrying out these experiments to note that in the A man it made a great difference in the excursion of the diaphragm not only in the extremes of breathing but also in the ordinary respiration whether there was a pillow under the head, the arms were at the sides or over the head, or the chest was put into a position of hyperextension. I have always wondered whether these considerations should be

taken account of in the experimental work that is being done on the respiratory functions.

The length of time allotted to this paper does not permit further discussion of the effects of faulty bodily mechanics. It is important, however, to say a word about the treatment of these conditions as we meet them in the O. P. D. First of all, it is absolutely necessary to have a complete physical examination in order to rule out any organic lesion and to know as far as possible what one has to deal with.

This tracing (Figure IVa) is of a man of 66 years of age who came to O. P. D. because he had had a distressed feeling in the epigastrium for three years. This had been gradually getting worse so that at the time of his entrance he was a good deal bothered with it. He had been treated for a primary lesion and the question of tabes was later ruled out by a negative Wassermann of the spinal fluid. He was sent to the Posture Clinic in January, 1916. Here he was fitted to a belt and what was the really important thing and should always be done whenever a belt is fitted, the reason for the belt was explained and he was shown a few educational exercises to teach him how to get back to a better mechanical use of his body. He was much interested and did his part faithfully. Three months later this second tracing (Figure IVb) was taken and it shows that he had been able to make a marked change in his mechanics. He was also feeling much better. He made the remark after reporting to the clinic about once a week for five months that he felt at least 25 years younger. He had practically no distress in the abdomen. He was followed for two years at very rare intervals and the last note on the record reads "Has had a good year. Belt repaired."

The second case (see Figure Va) is the one shown for the tracings of the diaphragm (see Figure IIc). He was 20 years old and came to the O. P. D. for marked constipation and a dull ache in the epigastrium lasting for three or four hours and having no relation to food; also frequent headaches. The x-ray was normal except for a very active peristalsis. He came to the Posture Clinic. He likewise was given a belt and the condition was explained and the educative exercises were shown. Especial care was taken that he understood what he was to do and that he did it, at least, while he was at the clinic. When seen again in a month the bowels were moving every day and

he was taking only Russian oil three times a day. When seen a year later the bowels were still moving well. He had continued to do his exercises and said that he felt much better, only occasionally having a little pain in the stomach (see Figure Vb).

The last case shows where the treatment of these mechanical conditions should begin (see Figure VI). This little girl was referred from the children's room for what was called cyclic vomiting. The condition had been somewhat helped by a careful dietary but was not entirely controlled by it. Although she was very young, she was given only some exercises and some resting positions which she was to take regularly. The mother followed the directions out most carefully and reports that there have been no attacks of vomiting since she started in with the rests and exercises.

The point that these cases bring out is not that the correction of the mechanical defects is the whole thing but that the correction of them is one of the ways to help nature compensate for the defects which may be present from heredity, environment and occupation.

THE MALNOURISHED CHILD IN THE PUBLIC SCHOOL.*

By WILLIAM R. P. EMERSON, M.D., BOSTON,
Professor of Pediatrics, Tufts College Medical School.

THE care and feeding of infants has become not only a science, but an art. Its principles are now quite generally understood in the home and good results are in evidence throughout the country. When we come to children of pre-school and school age, however, very little medical attention has been given them, especially as regards their nutrition and growth. In fact, malnutrition has not been considered a medical diagnosis.

This explains why children who are retarded in their growth from one to three years still pass through our hospital clinics unnoticed. Private physicians find their vital organs normal, recommend a tonic, and do not consider them subjects for medical care. School inspection fails to identify them as being physically unfit because the human eye cannot see through several layers of clothing, and in most states

the school physician is not allowed to examine children without clothes. Furthermore, the school doctor's work is directed chiefly to protecting the children against infectious diseases, such as scarlet fever, etc., rather than giving them individual treatment even if their state of nutrition were recognized.

The disclosure of the fact that about 30% of all our young men were found physically unfit in the draft was as much a surprise to the medical profession as to people in general. The significant point is that this unfitness did not come upon them suddenly when about to enter the army. As a matter of fact, the weighing and measuring of thousands of school children show this same percentage of unfitness in all the school grades, and extending even into the pre-school age. Until this fact is more widely recognized, we shall continue to graduate from grammar and high schools thousands of children, educated, but physically unfit for the burden of life.

This condition, which we call malnutrition, is not simply under-nutrition, but exhibits definite physical defects which can be found on a careful physical examination. These defects constitute the most frequent cause of the malnutrition, and average between five and six to each malnourished child. Accompanying them is usually a history of lack of endurance, both mental and physical, and a group of nervous symptoms which are found almost without exception as part of the clinical picture of malnutrition.

In our early study of this retarded growth in children, various theories were postulated as to the prime cause. In my own experience, the first cause considered was that of poverty. But we have found this the essential cause in less than 5% of our cases. Another cause assigned was improper food, but in our large cities food, as a rule, is well prepared, and this could not explain the prevalent condition where it was known the food was excellent. Tuberculosis was, of course, one of the assumptions, but was found as the chief cause in only the exceptional case. Hereditary syphilis could not explain the condition, as it occurs in less than 3% of the cases. Heredity was blamed in its turn until we found by our records that most of the children were perfectly well at birth, and the children who did have a poor start had usually received unusual care and therefore became well and strong beyond the average.

* Paper read before a joint meeting of the National Education Association and the American School Hygiene Association, Cleveland, Ohio, February 27, 1920.

Having thus eliminated these various theories one by one, we had still to find the active cause of this widespread malnutrition, and why, with all the child-helping organizations, national, state, and local, there seemed to be no great diminution in the percentage of cases. This afternoon I shall attempt to show some of these causes, first by a group of Cleveland children, and second by slides from our nutrition clinics in New York, Chicago, and Boston.

The group of children here on the stage are members of nutrition classes recently established by Miss Mae MacNab, secretary and chief worker of the Cleveland Nutrition Clinics, a new organization associated with our Nutrition Clinics for Delicate Children in Boston. I have not seen these children before this moment, but I am so sure they will present the same classic symptoms of malnutrition that I do not hesitate in using them as a demonstration. I am also sure of the results obtained even in the few weeks they have been attending Miss MacNab's nutrition classes that again I do not hesitate to present their record and to use their charts as illustrations.

Our method in these classes is to weigh the children once a week, and put at the head of the class the child who has gained the most in that period. These sixteen children are, therefore, arranged in this way. You will see by the chart that the first child has a gain of $2\frac{1}{2}$ pounds to his credit, and several have a gain of 2 pounds in a single week. When you realize that $2\frac{1}{2}$ pounds is 20 times the average rate of gain for a normal healthy child, you will appreciate what a remarkable response these children make to this form of treatment.

Before entering the nutrition class each child is given a thorough physical examination that his defects may be discovered and removed, so that he will be physically "free to gain." The mother is asked to report each week with the child, who is weighed in her presence, and in case there has been no gain the possible cause of the failure is discussed with both mother and child, and usually becomes apparent. With the removal of this cause the child who made no gain one week is often found at the head of the class the following week.

Each child has a weight chart, arranged in the same order, according to rate of gain. The red stars indicate that he has taken his mid-morning and mid-afternoon lunches every day during the week, and the blue stars represent

the same faithfulness with his rest periods. The gold star is given to the child making the greatest gain for the week. These charts are of great help in exciting the child's interest and enlisting his cooperation. The presence of the mothers ensures home support, and the nutrition worker advises in regard to diet and daily program.

We try to secure a modification of the school program also, and thus coördinate the four factors which we find essential in safeguarding the child's health; namely, the Home, Medical Supervision, the School, and the Child's Own Interest. These factors may be considered a parallelogram of forces working for the child's good, and it is because most child-helping organizations are operating on only one or two sides of this parallelogram, leaving the child's health unprotected on the other two sides, that their efforts have in a great measure failed to bring permanent results.

I will also show you some of the characteristic features of malnutrition almost invariably found in these children. (Several children stand showing side view to the audience.) You will notice the prevalent fatigue posture, round shoulders, projecting shoulder blades, protruding abdomen; also the pallor and lines under the eyes. The time is so short that I will now dismiss the class without the usual discussion with the mothers present, although I am sure this would bring out some interesting points. (Dismisses class.)

In order to show concretely the results of our work, I have brought with me a set of slides showing children treated in our Boston and New York clinics. (Slides shown.)

Among the principal diagnoses found are insufficient food (not enough calories per day); fast eating; sugar habit; omission of morning and afternoon lunches; omission of mid-morning and mid-afternoon rest periods; over-fatigue from a full-day school program and from school examinations; over-fatigue due to late hours, activities outside of school, such as clubs, music and dancing lessons, etc.; too many home studies; failure to gain because of obstructions to breathing, such as adenoids, tonsils, deviated septum, etc.; the use of tea or coffee; the omission of cereals or milk from the diet.

I am showing several class groups to illustrate how surely we can depend upon the parents to do their part. Many mothers have

come to us at the Massachusetts General Hospital in Boston from cities forty miles distant, rarely missing a single class until their children became well. In a class of state charges we had a remarkable demonstration of the co-operation of even foster mothers who responded 100% in the group shown, one foster mother being present for each child in the class.

The child's own interest is, however, one of the most important factors in successful treatment, as this reacts on the home and ensures the carrying out of the program recommended. We have been asked by mothers to continue our clinics in the summer as it helped them so much in the control of their children.

The pedagogical value of the class method is very great. The child at the head of the class, who, by following directions, has shown a good gain with improved physical appearance, is a great stimulus to others who are at first fearful, but soon learn that such essentials of health as open windows, proper diet and rest, good food and health habits, can be secured in practically every home, whether among the rich or the poor, and will almost certainly bring about the desired results.

We have been able to get children even on the East side of New York, during a war year, to show a gain from 100 to 250% beyond the normal rate of growth for well children, without extra expense and in their own homes; and once the child becomes well he stays well because he has learned how to be well in his own environment,—a most important point in securing permanent results.

Besides these groups, I am showing you many individual cases, because this is an individual problem which must be studied with reference to the needs of each child, and cannot be met by a broadside directed against a large group. The diagnosis of malnutrition is just as individual as any other medical diagnosis. For example, if we make a diagnosis of pneumonia or typhoid fever, each case will require its own treatment appropriate to the individual conditions. In the case of malnutrition the cause must be determined in each case and removed before the child gets well.

Among the charts shown are some of our early cases, where children were under observation for a period of 20 to 40 weeks with practically not a single pound gain in weight, even though some of them were taking between 3000 and 4000 calories of food per day and we

were doing everything we could to help them. However, until we made a definite diagnosis of the cause of their failure to gain, which might be any one of the causes previously mentioned, we could not produce results.

These children represent exactly the same problem as the 30% among the pupils in our schools who, by weighing and measuring, are shown to be physically unfit to carry the work of a school program that is planned for the normal child. Under the present system the stress of the school burden is increased for these undernourished children, because the efficiency of the teachers is measured by their ability to force them through the grades, and this frequently imposes extra home work or additional tasks upon the already overburdened shoulders of the malnourished child.

The remedy for this condition lies in separating the malnourished group from the well children and adapting the school program to their strength. This can best be accomplished by providing scales in every school, and at the beginning of each term weighing and measuring every child, and selecting those who are 7% or more under weight for special treatment. This group should be relieved temporarily from the pressure of the full program, and the worst cases should be put in open air, or at least open-window rooms. The great majority, however, can continue in their grade if they are excused at 10.30 so that they may go home for a mid-morning lunch and a rest period, returning after the noonday meal for the regular afternoon session. Where this is not possible because of distance, the children should be provided with a morning lunch and given a place to rest in the school building, with an army cot and a blanket.

A malnourished child is not capable of doing more than an hour or an hour and a half of concentrated work without overfatigue. But many of these children actually do better school work on a shortened program than the average child of their grade. This modified school program is being taken up by a number of cities and towns on the ground that health is more than education, and that malnutrition should be completely eliminated.

In a class of 14 children selected from a group of 600 in Boston, an average period of ten weeks only was needed for their recovery. However, this was in an institution where we had control of their activities the entire 24

hours. In any case there need be no serious interference with the work of the school, and as a matter of fact the over-fatigue incident to the malnourished child's efforts to keep up with the full schedule is in itself an obstacle to practical efficiency. If his condition is not recognized he will be a drag on his class throughout the grades, and he finally graduates, educated it may be, but physically unfit.

To sum up, the five principal causes of malnutrition, named in order, are: Physical defects, lack of home control, over-fatigue, improper food habits, improper health habits. These causes can be removed and the child made well in his own home. This is the work of our nutrition clinics and classes. So much demand has arisen for information in regard to the operation of these classes that we have formed an organization called *Nutrition Clinics for Delicate Children*, with headquarters at 44 Dwight Street, Boston, where reprints and further information may be obtained by addressing the Secretary, Miss Mabel Skilton. Information can be secured also from Miss Mae MacNab, Secretary, Cleveland Nutrition Clinics, Williamson Building, Cleveland, and from Mrs. Ira Couch Wood, Director Elizabeth McCormick Memorial Fund, 6 North Michigan Avenue, Chicago. These organizations are associated with us in this work.

COMPARATIVE STATISTICS ON PHYSICAL EXAMINATIONS OF PUPILS OF THE BOSTON PUBLIC SCHOOLS FROM DECEMBER 1, 1915, TO MARCH 1, 1920, AND REMARKS, WITH ESPECIAL REFERENCE TO MALNUTRITION.

By WILLIAM H. DEVINE, M.D., BOSTON.

Director of Medical Inspection, Boston Public Schools.

The steady decrease in cervical glands continues, and, as stated last year, this is partly due to the fact that school physicians have been instructed not to report slightly palpable cervical glands when secondary to adenoids, tonsils, carious teeth, pediculosis, or other allied condition. These cases are kept under observation, and only the primary causes reported.

Pulmonary tuberculosis shows a steady decrease.

Cardiac disease remains practically the same for reasons which have been stated in previous reports.

The principal causes of malnutrition in school children are: insufficient and improperly prepared food; impaired digestion due to imperfect mastication, bolting of food, use of tea and coffee, over-indulgence of ice cream and candy; late hours, lack of fresh air and proper exercise.

The first, insufficient food, is a social problem, the others, medical. The latter should be corrected by training the child to take the properly balanced diet, or substitutes; to masticate the food thoroughly; by instructing mothers on the selection and preparation of food, the value of exercise, fresh air, and other hygienic measures.

The Public Schools of Boston are doing much to combat malnutrition. Commencing in 1909, the pupils in the first grades were weighed and measured. These children were weighed and measured annually until 1919. The data from these records are in the hands of Dr. William T. Porter of Harvard Medical School. It is expected that his deductions will be published at an early date.

The present status of weighing and measuring is as follows: Nurses weigh and measure the children in open-air classes every month. All cases of malnutrition are weighed and measured every month. To this is the added requirement that all children in the following districts be weighed and measured annually by nurse: Blackinton-John Cheverus, Washington, Thomas Gardner, and John A. Andrew.

Beginning September, 1920, all children will be weighed and measured at the time of physical examination. These data will be recorded on Physical Examination Record Card.

All open-air class pupils, and malnourished children not in open-air classes, are reexamined physically in January of each year. They receive proper hygienic instruction from physician and follow-up visits to homes are made by nurses.

Commencing five years ago (1915-16) statistics show that 2.12%, or one in every 47 was malnourished; in 1916-17, 1.64%, or one in every 61; in 1917-18, 1.99%, or one in every 50; in 1918-19, 2.34%, or one in every 43; and for the present year 2.02%, or one in every 44.

	1915-16	1916-17	1917-18	1918-19	1919 to Mch. 1, 1920
Total number pupils examined	90,862	104,287	104,762	100,564	95,118
Total number without defects	30,781	38,318	43,128	43,328	40,889
Total number with defects	59,081	65,969	61,624	57,226	54,229
<i>Defects as follows:</i>					
<i>Defective nasal breathing:</i>					
Anterior	1,292	1,297	1,108	826	586
Posterior	5,966	5,282	4,975	5,338	5,894
Hypertrophied tonsils	18,444	14,806	14,037	12,734	12,642
Defective palate	351	169	121	65	42
Cervical glands	18,841	7,746	7,201	4,777	3,160
<i>Pulmonary disease:</i>					
Tuberculosis	44	22	28	15	11
Arrested tuberculosis	—	—	5	—	—
Non-tuberculous	683	453	456	516	452
Doubtful	—	1	—	—	—
<i>Cardiac disease:</i>					
Organic	1,330	1,406	1,624	1,572	1,399
Functional	1,668	1,716	1,864	2,209	2,052
<i>Nervous disease:</i>					
Organic	74	48	46	26	51
Functional	221	179	138	149	163
Chorea	43	23	33	14	15
<i>Orthopedic defects:</i>					
Tuberculous	88	76	63	51	35
Non-tuberculous	1,698	1,770	1,774	2,221	1,996
Skin	3,071	2,978	2,308	2,007	1,619
Rickets	383	326	284	132	129
Malnutrition	2,110	1,712	2,087	2,359	2,162
Mental deficiency	431	448	627	558	685
Totals	56,738	40,458	38,779	35,599	33,073
Defective teeth	56,750*	55,638*	50,507	44,531	43,142
GRAND TOTALS	113,488	96,096	89,286	80,130	76,215

* During the year 1915-16, and from October 1, 1916, to January 1, 1917, defective teeth were classed as primary and secondary. In some instances, if a pupil had defective primary and defective secondary teeth, it was recorded as two defects instead of one. In order to avoid duplication of defects, it was thought advisable to record defective teeth as one defect without regard to whether they were primary or secondary. This method was adopted commencing January 1, 1917, and precludes comparison for the two years.

It is encouraging to note that the percentage has dropped from 2.34 to 2.02. This is not surprising when the vast amount of work done by the Medical Inspection Department in combating this condition is considered.

There are statistics on malnutrition from many sources that savor of the sensational, but the above figures from the Boston Public Schools may be considered fairly accurate inasmuch as they were taken under practically the same conditions each year, by the same corps of medical inspectors, and the same children examined.

The following statistics are quoted from other cities:

CITY	NUMBER EXAMINED	NUMBER MALNUTRITION	PER CENT	ONE IN EVERY
New York, N. Y.	300,000	14,000	4.8	21
Cincinnati, Ohio	36,438	1,619	4.6	22
Cleveland, Ohio	61,578	671	1.1	91
Newark, N. J.	27,971	940	3.3	30
Rochester, N. Y.	18,497	945	5.0	20
Worcester, Mass.	18,432	389	2.18	47

Lunches are prepared in Boston schools for open-air classes and other malnourished groups at cost price, about two cents; in some cases three cents, according to the nature of the lunch. Some of the children bring lunch from home, while a number of schools distribute soup prepared by the Food Economy Kitchen. In this connection, I desire to state that the Food Economy Kitchen has rendered great assistance in furnishing the school children with a uniform and economical food at cost price. During the present school year this organization furnished about 500 quarts of soup daily, which means feeding about 2,500 children per day. The Boston School Committee has cooperated with and has endorsed every movement for the betterment of lunch service.

The lunches prepared in school consist chiefly of cocoa and crackers, milk and crackers or bread and butter, or soup or chowder in variety.

Children bringing lunch from home are advised to select plain nourishing food, bread, fruit, etc.

A report compiled in December, 1919, showed

that approximately 4,721 children in the elementary schools, exclusive of open-air classes, were served with lunches, and that approximately 23,370 children brought lunches from home. Thirty-five thousand is a safe estimate for the present number of pupils receiving luncheon or bringing same from home. The number of children in open-air classes is about 700. Every child in the open-air class received a luncheon. If he cannot afford to pay for it, means are supplied from a private fund. In addition to this, about 8,000 lunches are served at the various high schools each day by the Women's Educational and Industrial Union.

There may be children in the elementary schools who do not need the recess lunch; a sturdy child who has a substantial breakfast at 8 or 8.30 A.M., and dinner at noon. There are children apparently normal who do not have a substantial breakfast. Teachers and nurses will bear me out in the statement that there are many pupils in the elementary schools who have no breakfast or who have exceedingly light ones. It would appear that recess lunch is needed by most children.

As many people favor public feeding, it may be interesting to quote the law on the subject. The matter rests with the people.

Chapter 575, Acts of 1913:

Section 1. "The city council of a city or the selectmen of a town may provide meals or lunches free or at such a price, not exceeding the cost as they may fix, for children attending its public schools, and cities and towns may appropriate money for this purpose."

Section 2. "This act shall be submitted to the voters of any city or town at the municipal election in any year if a petition to that effect, signed by not less than five per cent. of the voters, is filed with the city clerk or town clerk, as the case may be, not less than one month before said election; and if accepted by a majority of the voters voting thereon, it shall take effect in such city or town. Otherwise this act shall not take effect."

AMERICAN CONTROL OF TYPHUS IN EUROPE.—

Attempts are being made by American representatives to organize health control centers in Europe for emigrants to America, in order to prevent the spread of typhus, cholera, and

other diseases to this country. Surgeon General Blue, who is undertaking the control of infection at its source, arrived at Brussels on May 26. He intended to go directly to Trieste, but was advised to change his plans on account of local rebellions and strikes.

Clinical Department.

RUPTURE OF THE RECTUS ABDOMINIS MUSCLE.

By R. J. BEHAN, M.D., F.A.C.S., PITTSBURGH, PA.

As it is very unusual to have a rupture of the rectus abdominis muscle, due to indirect violence, the report of a case which I have recently had, in which there could be no doubt of the rupture, and in which the relationship of this rupture with indirect violence could be definitely established, seems to me to be of value.

The patient was a Mrs. R. S., who entered St. Joseph's Hospital (No. 1539), Series 19, on December 10, 1919, and was discharged on December 24, 1919.

The diagnosis accompanying the patient was acute appendicitis. The diagnosis had been made by surgeons connected with two other hospitals, to which the patient had previously gone for consultation. However, as soon as she heard the word "appendicitis," she was not convinced, as she had no vomiting and no fever. She said she had always been taught that the two conditions were associated with appendicitis. Therefore, when a diagnosis of appendicitis was made, she was not satisfied. She thought the condition was a sprain of the abdomen. Therefore, when the diagnosis was made by us of rupture of the rectus muscle, that is, as we explained to her, of one of the muscles of the abdominal wall, she was perfectly satisfied, agreed to enter the hospital, and submit to an operation.

The history of the patient and the examination as taken from the hospital record, is as follows:

Mrs. R. S.

Chief Complaint. Pain in the right side.

Analysis of Chief Complaint. On December 6, sharp pain in the right side came on suddenly. Just before the onset of the pain, the patient was lifting a heavy window. She made a sudden jerk in raising the window and immediately felt the pain, which was very sharp at the time. Paid very little attention to it until Sunday, when she began to feel sharp pains in the right side on coughing or sneezing. Pain would cease while lying quietly, but would re-

turn when she raised up. No headache or nausea. Coughed up some blood on Sunday.

Past Personal History. Had St. Vitus dance four years ago. Influenza. Hay fever during the summer. Pregnancies, one; child living and well. Menstruation, regular; four weeks type; duration, four days; slight pain.

Physical Examination. Listless; expression of pain on coughing or deep breathing. Nose, deviated septum. Teeth, false. Throat, negative. Neck, no glandular enlargement. Chest, no supraclavicular changes from the normal. Lungs: Although the patient coughs, there does not seem to be any involvement of the lungs. Heart, negative. Abdomen is tender to the touch. Tenderness marked on the right side, especially over the lower one-half of the rectus which is in tonic contraction. In the center of this rigid area, there seems to be a slight groove where the fingers can be pressed down deeply through the rectus muscle. On coughing, there is a slight bulging of this area. The tenderness is not really confined to any one particular location on the right side, as the whole side is tender. The inguinal rings are not enlarged and no bulging in these areas is noticed on coughing. By pressing on the right side in a direction towards the right, the pain is very severe in the lower part of the abdomen. Liver, no enlargement. Stomach, about two fingers below the costal area. Reflexes, patella exaggerated. No enlarged glands.

Physical examination by Dr. R. J. Behan, December 11, 1919:

On the Abdomen. There is a point of tenderness to the right and above Poupart's. On making digital examination, there is a place on which pressure causes a slight separation of the fibres of muscle. The separation is V-shaped with the apex of the V upward. On moving or coughing the patient complains of pain at this point. The cecum is dislocated downward. There is slight tenderness over cecal area. The most pain is at a point at the lower end of cecal resonance. No pain in urinary bladder area. Slight tenderness over right flank, axillary line, pain in back, lumbar region, costo-vertebral (on pressure).

Diagnosis. Rupture of the right rectus abdominis near to its insertion into the horizontal ramus of the pubes.

Operation. December 11, 1919. The usual preparation of the patient was made. The incision was carried down through the skin on the right side to the sheath of the rectus. The incision extended from about the level of the umbilicus to about two inches above Poupart's. The skin was retracted, the sheath of the rectus and Poupart's ligament was exposed. It was noticed that in the lowermost area it was more adherent to the superficial fascia than is usually the case.

The sheath was incised and retracted toward

either side. Beneath it the muscle was found to be dark in color and the fibres were partially separated from each other. There was also noticed considerable amount of organized blood, although it was not in the form of a clot, but seemed to be more or less diffused through the muscle. The rectus was then drawn toward the inner side and the posterior surface of the muscle was exposed. Here there was found a well defined layer of blood clot, anterior to the final sheath which is present over the rectus muscle. This could be torn away by means of the forceps but held fairly well. The muscle itself showed several places where the longitudinal grooves were rather marked. There was also a bundle of fibres, about one-half inch or more in circumference, which had been torn loose, and had contracted, leaving a considerable interval between the two bundles or ends of the fibres. This interval was about two inches long.

The muscle was very friable, tearing on the least tension. At the time of the accident the separation apparently had occurred down near the insertion of the rectus muscle into the tendinous portion adjacent to Poupart's.

An incision was now made through the posterior sheath of the rectus and peritoneum. The cecum was found extending low down with an appendix which was turned up under the cecum and rested beneath it. The appendix was not apparently diseased, but was removed, the meso-appendix being somewhat shorter than normal.

After invagination, it was found that there was quite a bulging of the haustra of the cecum, so that there would have been left a diverticulum of the cecum at this point. Therefore the cecum was invaginated by Marvel's technic, the anterior and the external linea-longitudinales of the cecum being sutured together with linen. The abdomen was closed by the usual technic. No lanolin was used. Tension sutures were used on the surface. The ovaries and tubes were not examined, although an examination was made of the internal inguinal ring and it was not found to be dilated. The patient otherwise apparently was normal. The gall bladder was examined and found to be normal. The next day the patient said she had none of the pains of which she had formerly complained. Recovery was uneventful. The patient was discharged from the hospital in twelve days.

This patient is one of the very few cases in which a rupture has been determined, either postmortem or at operation, of the rectus muscle from muscular exertion. However, the presence of the laceration of the rectus cannot be doubted, and apparently must have taken place at the time of the muscular exertion,

when the patient says she attempted to raise a window. The position in which she was standing, at the time she made the effort, was one in which both knees were abducted and slightly flexed, the thigh was flexed on the pelvis and the knees were pressing against the wall beneath the window. In this position, which was such that she could exert great traction or great force, she then attempted to raise the window by pulling directly upward on the lower sash. She said that at the acme of greatest exertion that she felt a sudden sharp pain in the right side and that immediately she noticed that she could not breathe well because of pain in the lower right iliac region.

At the time of examination she was unable to take a deep breath, without severe pain in the right side. She also could not cough without having severe pain in the same region.

The presence of pain, of course, suggested appendicitis. However, the absence of vomiting would show that the alimentary viscera were not involved in the pathology causing the pain; also, the bowels were normal, the patient being neither constipated nor suffering from diarrhea. The pain was not present when she was absolutely quiet, which was another indication of the absence of acute inflammatory pathology in the abdominal cavity. There was not much rigidity on pressure over the area of the appendix, but there was considerable rigidity on making pressure lower down over the insertion of the right rectus abdominis, although the rigidity was not as marked as one would find in appendicitis. At this point, which was near to Poupart's, she complained of severe pain.

The next factor which entered into our differential diagnosis was inguinal hernia. This was excluded by the absence of a bulging at the site of the pain; also by the inguinal ring being closed. In the femoral region there could not be felt any apparent opening nor bulging on the patient coughing or straining. There was no fever, nor increase of the pulse rate. The patient felt well, except for the pain which she had in the right side.

This patient had been to two other hospitals, where the diagnosis had been made of acute appendicitis. However, even though a blood count was not made by us, appendicitis was excluded and the diagnosis of a laceration and rupture of the rectus muscle was made.

Operation proved that the diagnosis was correct. The presence of extravasated blood, in such a degree of organization that it formed a rather firm film over the peritoneum, between it and the rectus, and the presence of the lacerated and torn fibres of muscular tissue of the rectus muscle, indicated that the correct diagnosis was rupture of the rectus muscle.

The absence after operation of all pain, the ability of the patient to take deep breaths, and also to cough without pain indicated that the pathology from which the patient had been suffering prior to operation had been corrected at the operation.

The tear of the rectus fibres had apparently taken place near to their insertion into the aponeurosis. The muscle itself was very friable.

The pathological report is as follows:

Patient, Mrs. H. S. Symptoms suggestive are rupture of rectus abdominis; possibly (?) appendicitis. Examination requested, pathological.

December 22, 1919:

Macroscopical. Small fragments of muscle, one-half inch square, one-sixth inch thick. Has two spots of hemorrhage, otherwise muscle appears normal. Appendix 3 inches long, $\frac{1}{4}$ inch wide, slightly narrow at its proximal end. Peritoneum smooth, not injected; mucosa appears normal; contains blood-stained contents.

Microscopical. Mucosa of appendix shows thickening and the sub-mucosa is markedly infiltrated with lymphocytes and lymph nodes, indicating low grade catarrhal process. The other coats are normal. The muscles show considerable degeneration, suggesting a degenerative process antedating the rupture. The fibres show an exaggerated fibrillation and some are in a marked granular state, and a few of the fibres are broken down to hardly recognizable fibrillary masses; occasionally, hyaline. There are several areas of fibrous tissue reaction and cell infiltration. Recent blood is extravasated between the fibres. Some fibres are curled up, suggesting contraction after the break.

Diagnosis. Chronic myositis—degeneration. Catarrhal (chronic) appendicitis.

J. ROCKMAN, Pathologist.

The pathological examination of the appendix shows no change suggestive of an acute inflammatory process, so that the appendix may be excluded as the cause of the pain felt by the patient. The muscle, however, is the seat of a pathological reaction that will tend to weaken it. As to the cause of this change

(myositis) I am unable to venture an hypothesis.

A rupture of the rectus abdominis muscle is usually regarded as a very rare accident, though it was found by Beals, Blanton and Eisendrath in eight cases out of 140 of bronchial pneumonia, which had come to autopsy. This rupture occurred between the symphysis pubis and the umbilicus. It was never complete, usually involved only a few fibres and was always unilateral. It was accompanied by hemorrhage under the sheath of the muscle. They explain this occurrence from the fact that there was some localization of infection in these muscles, or abscess formation and consequent rupture on violent coughing. (Beals, Blanton and Eisendrath, "Abdominal Complications of Pneumonia at Camp Custer," *J. A. M. A.*, 1919, 72-85.)

Book Reviews.

Health and the Woman Movement. By CLELIA DUEL MOSHER, A.M., M.D. Second Revised Edition. New York: The Woman's Press. 1918.

The unprecedented demands which the war has made of women have proven their ability to take the places of men in numerous activities in spite of differences of sex. The author of *Health and the Woman Movement* maintains that the majority of women can be trained to meet their increased economic responsibilities as well as their racial duties with a normal mental condition and functional activity. In dealing with more than 1900 women for over twenty-five years, Dr. Mosher has found that constrictive clothing and inactivity of the muscles of the abdomen and diaphragm are among the most important factors in causing disability; for improving the latter condition, exercises are suggested in this book. The author emphasizes particularly the importance to women of thinking in terms of health instead of illness, and states the value of useful labor in altering morbid mental attitudes.

It is true that women have proven themselves physically able to withstand the hardships of labor in spite of their physiologic structure; the author of this book fails, however, to point out that it is as yet too soon to determine whether or not—even if they have succeeded under the stress of abnormal circumstances in overcoming their periodic incapacity

—the subjection of women to many forms of labor will have a beneficial or a detrimental effect upon the future generation.

Hospital Accounting and Statistics. Fourth Edition. Compiled by WILLIAM V. S. THORNE. New York: E. P. Dutton & Co. 1918.

The object of this book is to assist hospitals by a system of accounting which will show in a uniform manner, especially for purposes of comparison, statements of receipts and expenses. This method of bookkeeping has now been adopted as standard by many hospitals throughout the United States and Canada. Such information as is of immediate importance to the hospital managers, trustees, and to the public, from whose contributions a great many institutions derive funds, is readily available as a result of the adoption of a simple, intelligent system. Complete descriptions and specimen pages from Superintendent's Bill Book, Bill Register, Patient's Ledger Account Cards, and Cash Receipt Book, as well as specimen report sheets, are contained in this book. As a practical working guide, compiled as a result of numerous conferences between the superintendents and treasurers of Accounts of some of the larger hospitals, the book should prove helpful in minimizing clerical labor and making more accurate hospital accounts and records.

A Manual of Physiology. With Practical Exercises. By G. N. STEWART, M.A., D.Sc., M.D., Edin.; D.P.H., Camb. With Colored Plate and 492 Other Illustrations. New York: William Wood and Company. 1918. Eighth Edition.

The eighth edition of this standard text is distinguished by most creditable revision, in accord with the advances in physiology which have been made in these last unsettled years. Professor Stewart's constant activity as an investigator is reflected in his thorough treatment of recent literature upon the physiology of the ductless glands, respiration and urine formation. It is always pleasant to find a text which treats advancing subjects suggestively, a feature consistently true in this case.

The inclusion of practical exercises, as in former editions, rather detracts than adds to the final value of the work. The reader taking up such a book for reference is simply annoyed by these inclusions and the teacher invariably specializes his own laboratory course in such a way as to render such exercises of little use.

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BOSTON MEDICAL AND SURGICAL JOURNAL
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MEDICAL LEGISLATION.

THE Legislature of 1920 has adjourned to meet in special session in November. No constructive legislation on any medical matter of major importance has been enacted. Internes and medical officers in hospitals have been granted the right of limited registration. Prisoners suffering from venereal diseases or tuberculosis may be detained until they cease to be a menace to the public health. All other measures favored by the medical profession as represented by the Joint Committee on Legislation of the Massachusetts Medical Society and Massachusetts Homeopathic Medical Society have failed of passage.

Action upon one very important matter has been deferred to the special session in November. The entire question of maternity aid has been referred to a commission of five, including the Commissioner of Health, the Commissioner of Public Welfare, one physician and one

woman. This commission must report its recommendations to the Legislature in November.

The JOURNAL has already discussed the various measures proposed. It plans to publish additional articles upon this very important subject.

Several district and other medical societies have passed resolutions against any legislation at all looking to maternity aid. If all legislation is to be defeated the Governor and a very large proportion of our Senators and Representatives must be converted from their present views. Opposition on the ground that such legislation is socialistic is not enough. It must be shown that such legislation will not benefit obstetrics, and this in the face of a conviction among many of those physicians who are best informed that some of the proposed steps will aid the art of obstetrics. There is further a widespread belief that obstetric practice, whether by physicians or by midwives, is not in many places up to a reasonably high standard. If legislation is to be defeated those opposing it must show better ways of improving practice and must take active steps toward reform, for improvement should come in one way or another. Frank discussion will help to a wise decision, and this the JOURNAL urges. The medical profession can exert its influence now. We are concerned with securing the best possible care for both mother and child. We are concerned with maintaining the highest standards for our state and local departments of health. We do not wish our State Department of Health to become in any sense a dispenser of poor relief as some of the proposed maternity aids would make it. It must be maintained to deal with health measures alone.

SIR WILLIAM OSLER AS A MAN OF LETTERS.

It may not be appreciated generally that Sir William Osler, honored by three countries for his scientific achievement, was also a man of letters. His interests in literature were broad and varied, and because of his literary distinction and ability he was elected to the Presidency of the Classical Association of Great Britain. In a review of one of Osler's works, "The Old Humanities and the New Science," Mr. Brander Mathews has made interesting

comments upon the literary attainments of Dr. Osler. Although known primarily as a man of science, he was as familiar with the pen as with the clinical thermometer; he was as well informed about books as he was about bones. In the words of Professor Gilbert Murray, who preceded him as President of the Classical Association, Osler "represents in a peculiar way the learned physician who was one of the marked characters of the seventeenth and eighteenth centuries, and stands for a type of culture which the Classical Association does not wish to see die out of the world—the culture of a man who, while devoting himself to his special science, keeps, nevertheless, a broad basis of interest in letters of all kinds."

Sir William Osler proved not only by his appreciation of literature but also by his own writings that he recognized the full value of Humane Letters. Speaking of the Humanities, Dr. Osler remarked in his presidential address at Oxford that "one of the marvels so commonplace that it has ceased to be marvelous, is the deep rooting of our civilization in the soil of Greece and Rome—much of our dogmatic religion, practically all the philosophies, the models of our literature, the ideals of our democratic freedom, the fine and the technical arts, the fundamentals of science and the basis of our law. The Humanities bring the student into contact with the master minds who gave us these things—with the dead who never die, with those immortal lives 'not of now nor of yesterday, but which always were.'"

Dr. Osler believed that although the study of the ancient languages is valuable as mental discipline, it should also be borne in mind that its chief purpose is to unlock the wealth of ancient literatures. He deeply regretted that although students devote years to the study of Greek and Latin, at the end of that time the purities of the languages are still hidden because of the methods by which they are taught. Osler asserts that the salvation of science lies in "a recognition of a new philosophy"—foretold by Plato when he said, "All these studies reach the point of intercommunication and connection with one another and come to be considered in their mutual affinities; then, I think, and not till then, will the pursuit of them have a value." In pleading for a recognition at Oxford of the solidarity of the science of the present with the science of the past, Dr. Osler urged that "the scientific student should

go to the sources and in some way be taught the connection of Democritus with Dalton, of Archimedes with Kelvin, of Aristarchus with Newton, of Galen with John Hunter, and of Plato and Aristotle with them all."

Since the middle of the nineteenth century Science has been forging ahead and battling for a place by the side of the Humanities. In Sir William Osler these two forces found a happy reconciliation, each supplementing the other and uniting to find satisfaction in the achievement of a learned physician who was both a scientist and a man of letters.

TUBERCULOSIS IN CHILDHOOD.

THE proper treatment of tuberculous infection in childhood is becoming recognized as one of the most important means of preventing the development of tuberculosis in adult life. In an article in a recent issue of *The Commonwealth*, Dr. H. D. Chadwick, Superintendent of the Westfield Sanatorium, has considered the problem of tuberculosis in childhood, emphasizing the difference between early infection and disease, and outlining the symptoms and effective methods of treatment.

Tuberculosis is one of the common diseases of childhood, too often neglected and allowed to remain as a focus for later pulmonary development. In infancy the infection is a generalized disease; in childhood it appears in glandular form; and adult tuberculosis develops as a later stage of the glandular and peribronchial disease in children. During various age periods the body reacts differently to the infection: an infant infected with tubercle bacilli develops general miliary disease; older children acquire the power of reacting to infection, with a result that localization of the bacillus occurs, most often in the lymphatic glands, or more rarely in the bones. Resistance to further pathological development depends on many things, among which unhealthy living conditions in the home and school, subjecting the child to other diseases and lowered vitality, is one of the most important and yet a preventable factor.

Before children reach the age of sixteen years, nearly all of them have become potentially tuberculous by the entrance into their bodies of tubercle bacilli, which in the majority of instances remain latent through life un-

less the infection is awakened into activity either by environmental conditions or some intercurrent disease. When symptoms begin to appear, children should be observed carefully as they are less apt to complain than are adults and their first symptoms are chiefly subjective. In any case where there is no complete diagnosis, tuberculosis should be considered either as the primary cause of other symptoms or as a smoldering secondary condition. Children who have been exposed for a prolonged period to an active case of pulmonary tuberculosis will almost certainly become infected; they will develop symptoms of tuberculosis later if they are poorly nourished or become debilitated by some other disease. The symptoms vary with the location of the tubercle and with the amount of local reaction set up by the presence of bacilli. In nearly all children the infection at first is localized in the bronchial glands and about the root of the lung. If the disease develops the child becomes listless and unduly fatigued, has little appetite, and usually develops in the late afternoon a temperature one-half to one degree above normal; he will often appear irritable and dull, and will fail to develop normally in height and weight. A cough may begin when enough peribronchial irritation develops, either from inflammation or pressure, and vague transitory pains in the legs and body may be complained of. The symptoms of childhood tuberculosis in the early stage are those of toxemia resulting from tuberculous absorption; there may be no cough, and symptoms indicating the focus of the disease may be absent. The symptoms of fever and fatigue depend to a great extent upon the activity of the child. Greater importance should be attached to symptoms than to physical signs. Weakness is the most constant of the warning symptoms.

It has been found that children having symptoms of active tuberculosis respond to sanatorium treatment if they are reached before the tubercle has broken down and the lesion has become an open one. In advanced cases where the sputum is positive, the prognosis is not as good as in adults at a corresponding stage of the disease, even when the best conditions for treatment are available. Tuberculous children need frequent rest intervals, with short periods of study and play and frequent change of activity and rest. Fresh air is essential; but too much cold air, taking away

too much bodily heat, may only further depress a patient and enfeeble his resistance.

It should be remembered that tubercle bacilli are omnipresent and that all children are susceptible to infection. Although nearly all become infected, only a small percentage develop the symptoms of disease during childhood. The pulmonary disease of adults, however, is generally due to the lighting up of the tuberculous focus which has been quiescent since childhood. How important it is, then, in preventing the development of pulmonary tuberculosis in an adult, to treat that individual when the infection first appears in childhood, doing everything possible to increase resistance and to create a reserve at an early age by improving personal hygiene and home conditions. Although it is probable that childhood infection makes more difficult additional infection from without in later life, an adult whose vitality is lowered is in constant danger from the infection which he has carried in his tissues since early life. Although little can be done in preventing infection, improved conditions in the homes and schools will accomplish a great deal in preventing the child from becoming diseased. Resistance built up in childhood will be of benefit to the adult.

THE DEVELOPMENT OF NURSING DURING THE PAST CENTURY.

THE observance of the one hundredth anniversary of the birth of Florence Nightingale is an appropriate time to review the development during the past century of the nursing service, to which she gave her inspiration and her life. As long as suffering has existed among men, the nurse, at first untrained and unskilled, has endeavored to alleviate it. It was probably in the Middle Ages, however, especially among the religious orders, that nursing first began on an organized basis. During modern times, probably within the last forty years, there has come into prominence one of the most important branches of nursing, public health nursing. In an article written by the medical correspondent to a Boston paper, the development of this work in Boston has been outlined.

The public health nurse was probably of English origin; it is known, at least, that such work was begun in the early seventies in Liv-

erpool, where a woman was definitely employed to care for the poor in their homes. This work was observed by several Boston women, who became interested in it and began similar undertakings in Boston. In connection with the day nurseries in the city, efforts were made to educate mothers in the elements of sanitation. The Women's Educational Association then became interested in the project, and in 1886 tried the experiment of sending out two nurses. In 1889 it was found that the services of twelve nurses could be used to advantage, one to work with the physician detailed for service in each of the twelve districts into which the city has been divided by the Boston Dispensary. Even before 1899 some attempt was made with follow-up work, although in a very limited way; one nurse, for instance, was detailed to oversee the children discharged from the Children's Hospital.

In 1901 a special nurse was engaged to take care of tuberculosis work; she visited the homes of tuberculous out-patients of various institutions and endeavored to instruct them in matters of health and hygiene. When it was felt in 1906 that nurses were needed in the public schools, the Boston Instructive District Nursing Association undertook the experiment, supplying five paid nurses and an equal number of volunteer assistants. Cases of infectious disease were soon put under the charge of nurses; then followed obstetrical nursing and other specialties,—eyes, throat, and industrial cases,—and the recent advent of the community nurse. These public nurses have studied conditions in the homes, they have given instruction in the avoidance of communicable disease, and have gathered for medical authorities statistical data of far reaching significance. Proper medical and surgical treatment, with financial assistance if necessary, has been made available to needy patients.

The work of the public nurse has developed to such an extent that from the one little society in Boston and another in New York there have been organized at least twenty-eight hundred local organizations with nurses of their own and three or four hundred others contributing and having part-time service. There are in the country at the present time nearly ten thousand nurses representing thirteen hundred cities, every one of the forty-eight states

of the Union, and all the territorial possessions. It is with a feeling of deep appreciation of the devoted and unselfish work of Florence Nightingale that we trace the development of the nursing service from its early beginnings to its present position as an indispensable agency in the protection and maintenance of public health.

TRANSMISSION OF TUBERCULOSIS.

SOME time since in a discussion as to why many men who are communicants do not come to communion, it was stated by one man that he would never communicate as long as there was a common cup in use. As there was a difference of opinion as to the danger of a common cup I took upon myself to look the matter up, using the disease syphilis as an index, that being probably the most common disease, and at the same time one that is most likely to be transmitted through the use of a common cup.

The leading authority in this country on the transmission of syphilis is probably Colonel E. B. Veeder of the United States Army. Several years ago he made a very careful study of the subject, having at his disposal the wealth of literature collected in the Library of the Surgeon General's Office of the War Department. From this study he says that extra genital syphilitic infections are between 5 and 10 per cent. of all the cases, and that there have been 20,000 such cases in recent literature. (*Syphilis and Public Health*, p. 149.) His analysis of extragenital chancres shows that 27.44% were of the lip (p. 151). That of the chancres of the lip, 13.24% were acquired by kissing, and that 8.1% were traced to drinking glasses (153).

Some of the clergy wipe the lip of the cup with a napkin each time it is used. This shows a desire to do the right thing and also a lack of knowledge of the subject of bacteriology. Everyone knows that wiping with a damp cloth is a poor way to sterilize instruments, and no surgeon who performed an operation without other precautions would escape a malpractice suit. Zinsser and Hopkins have shown that the organism which causes syphilis will live on a moist towel for 11½ hours (Rosenau, *Preventive Medicine and Hygiene*, 2 ed., p. 57). This

being true, it will be seen that should a syphilitic use the cup amongst the first of the communicants the wiping process would only diffuse the infection.

It has been said that the alcohol in the wine would kill the germs which cause disease. The bacteriologist of the New Haven Department of Health has this to say on the subject: "A number of people have the idea that whiskey and beer and other alcoholic drinks kill any bacteria which may be on the glasses in which they are served. We tried experiments with whiskey and beer, and find that alcoholic drinks do not kill bacteria and that glasses used for such drinks should be as carefully washed as any other glasses (*Mo. Bull.*, New Haven Department Health, May, 1919).

The amount of alcohol in the communion wine is very much less than in whiskey, therefore there can be no bactericidal power in the wine. It is also to be observed that the wine does not come in contact with all portions of the lip of the cup. It therefore is apparent that the danger from the common cup is not lessened by the alcohol in the wine.

A considerable number of the communicable diseases are transmitted through the excretions from the throat and nose. In this class we find cerebro-spinal meningitis, infantile paralysis, measles, scarlet fever, diphtheria, pneumonia, and coughs and colds, under which head comes influenza and tuberculosis. In one of the large camps in 1918, during the epidemic of influenza, it was clearly demonstrated that the disease was spread through the imperfectly washed dishes. When all the dishes were sterilized the epidemic subsided. The health officer of Florida made a study of the glasses used in the soda fountains and found that, when diphtheria prevailed in Jacksonville, cultures from 20% of the glasses showed the diphtheria bacillus.

On July 4, 1915, there was a wreck on the Lehigh Valley Railroad and a large number of persons from the surrounding farms went to view the ruins. Amongst them was a boy who had visited in a distant city. He was hot and feverish and thirsty, so went to a nearby farm and procured a pail and dipper. During the afternoon he drank freely from the dipper as

did many other children. On the following day he came down with measles and within a week 18 of those who had been at the wreck were down with the disease. All of them had used the dipper and there was no other source of infection in that part of the county. After a careful study of the cases it was concluded that the dipper was the means of transmission from the boy who was feeling badly on July 4 and the other cases of the disease.

The recent experiments of Brown and his associates at Saranac Lake show that there is a real danger of transmission of tuberculosis by means of kissing and the same observers were able to infect guinea pigs from the washings from cups used by persons with tuberculosis (*American Review of Tuberculosis*, III, p. 623).

The individual communion cup is a relic of ignorance and a progressive church will adapt itself to the needs of modern civilization by adopting a more sanitary way of administering the wine.

I. W. BREWER.

A CORRECTION.

We regret that in an editorial entitled "The One Hundredth Anniversary of the Birthday of Florence Nightingale," published in the issue of the JOURNAL for June 3, 1920, we unwittingly did an injustice to a Massachusetts institution in stating that the first training school in this country was established approximately fifty years ago in Bellevue Hospital, New York. The New England Hospital for Women and Children was chartered in 1864 to treat the sick and teach nurses. In 1872 Dr. Susan Dimock started a training school at the New England Hospital, from which Miss Linda Richards was the first to graduate, in 1873. In May, 1873, the Bellevue School began, but gave no regular instruction until 1874. Miss Richards, after graduating from the New England Hospital, went as night superintendent to the Bellevue Hospital. To the New England Hospital for Women and Children, therefore, and not to the Bellevue Hospital of New York, belongs the credit of establishing the first training school for nurses in America.

MEDICAL NOTES.

BUBONIC PLAGUE IN VERA CRUZ.—Because of the bubonic plague in Vera Cruz, the citizens have decided to burn one-third of the houses in that city. A dispatch from Vera Cruz has announced that state authorities have accepted the offer of the United States Government to send a sanitary detachment and supplies to that city for the purpose of combating the spread of the disease.

CONSTRUCTION OF HOSPITALS FOR WAR VETERANS.—A bill reported recently by the House Buildings Committee has authorized the construction of five hospitals, costing ten million dollars, for the use of veterans of the World War. One is to be located in the region of the Central Atlantic Coast States, one on the Great Lakes, one in the North Pacific Coast States, one in Rocky Mountain States, and one in Southern California.

CONGRESS OF PHYSIOLOGY IN PARIS.—A Congress of Physiology is to be held in Paris from the sixteenth to the twentieth of July, 1920, under the presidency of Professor Charles Richet. An exhibition of apparatus and instruments will be associated with the Congress. Physiologists of allied neutral countries are invited to participate in the Congress. Membership and dues, thirty-five francs, should be sent as soon as possible to the treasurer, Monsieur Lucien Bull, Secretary of the Congress, Sorbonne, 1 Rue Victor Cousin, Paris, V^e.

PARIS CONGRESS OF PHYSIOLOGY.—The Paris Congress of Physiology will hold its sessions this year from July 16 to July 20, under the presidency of Professor Charles Richet. The last congress was held in September, 1913, at Groningen.

ELECTION OF AMERICAN PHYSICIANS TO THE SOCIÉTÉ DE PATHOLOGIE EXOTIQUE.—The following physicians from the United States have been elected as members of the Société de Pathologie Exotique: Dr. S. Flexner, Rockefeller Institute, associate member, already corresponding member; Dr. B. H. Ransom, United States Bureau of Animal Industry, corresponding member.

The Massachusetts Medical Society.

ANNUAL MEETING OF THE COUNCIL,
JUNE 8, 1920.

THE annual meeting of the Council was held at the Boston Medical Library, 8 The Fenway, Boston, Tuesday, June 8, 1920, at twelve o'clock noon. The President, Dr. Alfred Worcester, was in the chair and the following 130 Councilors were present:

BARNSTABLE, W. D. Kinney.	MIDDLESEX SOUTH (cont.), H. S. Rowen.
BERKSHIRE, A. P. Merrill, V.-P. Henry Colt. B. W. Paddock. P. J. Sullivan.	F. R. Stubbs. C. E. Hills. E. H. Bigelow, C. A. K. Stone, Treas. Fresenius Van Nüys.
BRISTOL NORTH, W. H. Allen. A. R. Crandell, Vice-Pres. W. O. Hewitt. F. A. Hubbard, M.N.C.	NORFOLK, G. W. Winchester, V.-P. C. E. Allard. W. B. Batchelder. D. N. Blakely. E. H. Brigham, Lib. A. N. Broughton, M.N.C. W. L. Burrage, Sec. R. W. Hastings. H. T. Holland. G. W. Kaan. W. B. Keeler. Bradford Kent. A. P. Perry. M. V. Pierce. H. H. Powers. Victor Safford. G. H. Scott. Augusta G. Williams.
BRISTOL SOUTH, E. F. Cody. W. A. Dolan. R. W. Jackson.	NORFOLK SOUTH, E. H. Bushnell, V.-P. C. S. Adams. J. H. Libby. G. H. Ryder, M.N.C.
ESSEX NORTH, R. V. Baketel. J. F. Burnham. T. R. Healy. G. E. Kurth. F. B. Pierce. F. E. Sweetser.	PLYMOUTH, F. J. Ripley. F. G. Wheatley, M.N.C.
ESSEX SOUTH, W. G. Phippen, V.-P. H. K. Foster. W. T. Hopkins, M.N.C. J. F. Jordan. R. E. Stone.	SUFFOLK, F. E. Lund, V.-P. J. L. Ames. J. W. Bartol, C. Robert Bonney. J. T. Bottomley. J. E. Briggs. F. J. Cotton. Loretta J. Cummins. Lincoln Davis. Channing Frothingham, C. W. J. Gallivan. C. M. Green, C. J. E. Goldthwait. G. S. Hill. W. C. Howe, M.N.C. F. L. Jack. D. F. Jones. R. T. Lord. F. H. Miller, C. J. J. Minot. W. H. Robey, Jr. Stephen Rushmore. D. D. Scannell. C. L. Scudder. C. M. Smith. Myles Standish. J. S. Stone.
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HAMPSHIRE, J. G. Hanson. C. E. Perry.	
MIDDLESEX NORTH, W. B. Jackson. J. H. Lambert. J. A. Mehan. J. H. Nichols, M.N.C.	
MIDDLESEX SOUTH, H. T. Baldwin, V.-P. A. W. Dudley. F. R. Jouett. E. H. Stevens, M.N.C. John Duff. Godfrey Ryder. C. H. Staples. C. E. Mongan. W. D. Ruston. Richard Collins. C. A. Dennett. W. E. Fernald. Alfred Worcester, Pres. F. G. Curtis.	

priation to be submitted to the Committee on Membership and Finance before action by the Council.

REPORT OF COMMITTEE ON MEMBERSHIP AND FINANCE AS TO FINANCE.

The Committee on Membership and Finance, in view of the fact that it will be necessary to take action, at the October meeting of the Council, with reference to the affiliation with the BOSTON MEDICAL AND SURGICAL JOURNAL, thinks it wise to submit at this meeting the following three possible courses of action in October, in order that Councilors may be prepared to represent the wishes of their respective District Societies:

I. To discontinue the affiliation with the BOSTON MEDICAL AND SURGICAL JOURNAL, in full knowledge of the fact that the oldest weekly medical journal on this continent, and the second oldest in the world, would in that event probably be obliged to suspend publication.

II. To take over the ownership and financial responsibility of the JOURNAL.

III. To contract with the present owners of the JOURNAL to pay for the year 1921 the cost price of publication—\$4.50 a year.

If Plan I is rejected, and either Plan II or Plan III be adopted, in October, the Committee on Membership and Finance would recommend that the annual dues for 1921 be placed at \$10—with a view to providing

(a) For the additional cost of \$1.50 for the JOURNAL for each member in good standing;

(b) For the increased cost of maintaining the Society's new and increasing activities;

(c) For affording a sufficient income to warrant a dividend to the District Societies, which will make it unnecessary for the Districts to levy and attempt to collect a special assessment to provide for their meetings.

For the Committee on Membership and Finance,

CHARLES M. GREEN, *Chairman*.

The report was accepted. On motion by Dr. Bowers, duly seconded, and discussed by Dr. Green, Dr. Mehan, Dr. Mahoney, Dr. Bartol, Dr. F. B. Pierce, and Dr. Cody, it was voted that the annual dues for the year 1921 be fixed at \$10.

Dr. Bowers took the floor and discussed the relation of the Society to the BOSTON MEDICAL AND SURGICAL JOURNAL and read the following preamble and motion:

WHEREAS: It is believed that The Massachusetts Medical Society should own an official organ for the purpose of publishing its transactions and promoting interchange of opinions and the maintenance of medical literature, it is hereby

MOVED: That a committee of nine members of this Society be elected with full powers to represent and act for The Massachusetts Medical Society, for the purpose of entering into negotiations with the owners of the BOSTON MEDICAL AND SURGICAL JOURNAL for the purchase of the said JOURNAL if the terms and conditions which may be submitted by the said owners meet the approval of this committee.

And, further, if the purchase of the said JOURNAL shall be consummated that this committee be and hereby is authorized and empowered to employ agents,

make contracts and all other arrangements which may be deemed necessary by said committee in maintaining a medical journal.

The election of this said committee is hereby provided for as follows: Upon nomination by the President, three members of the Society shall be elected to serve for one year, three for two years and three for three years, and at each annual meeting of the Council, there shall be elected three who shall serve for three years.

This committee shall submit a report of its doings at the annual meeting of the Council. Any vacancy in this committee may be filled at any meeting of the Council.

The motion was seconded by Dr. Lund, discussed by Dr. Cody, Dr. Green, Dr. Woodward, Dr. Dolan, and Dr. Bowers, re-read by the Secretary by request of the Chairman, and passed unanimously.

The President nominated and the Council appointed by vote this committee of nine to carry out the terms of the vote:

For three years: Homer Gage, *Chairman*, E. W. Taylor, E. C. Streeter.

For two years: R. B. Osgood, W. H. Robey, R. I. Lee.

For one year: Channing Frothingham, H. D. Arnold, J. S. Stone.

On motion by Dr. Bowers, it was *Voted*: That if the committee of nine members finds it necessary to expend money that this committee be directed to confer with the Committee on Membership and Finance and that a report be made by the Committee on Membership and Finance at the October meeting of the Council as to such funds which shall meet the recommendations of the committee of nine.

On motion by Dr. Mongan it was *Voted*: That in the event that the BOSTON MEDICAL AND SURGICAL JOURNAL is taken over by The Massachusetts Medical Society, the money now appropriated for payment to the JOURNAL be placed at the disposal of the said committee of nine members just appointed.

The committees appointed to consider the petitions of N. M. Crofts, C. H. Keene, W. G. Stickney and T. L. Jenkins for restoration to the privileges of fellowship reported, favoring their restoration under the conditions specified in each report. The committees' reports were accepted severally by the Council and their recommendations adopted.

The following petitions for restoration to the privileges of fellowship were received and committees appointed to consider them as in this list:

J. D. Lucas; Committee, C. D. Knowlton, G. H. Scott, F. W. Stetson.
 F. B. Colby; Committee, E. A. Sawyer, A. F. Lowell, George Mossman.
 J. T. Cahill; Committee, G. S. Allen, J. J. O'Sullivan, V. A. Reed.
 T. B. Foley; Committee, Augustus Riley, F. H. Lahey, H. H. Howard.
 A. J. Choate; Committee, S. W. Mooring, S. P. F. Cook, J. J. Egan.
 J. R. Hobbie; Committee, O. J. Brown, J. F. Crowley, F. D. Stafford.
 Mary P. Dole; Committee, J. G. Hanson, W. J. Collins, J. E. Hayes.

The Nominating Committee brought in the following nominations for officers and orator for the year 1920-1921: President, Alfred Worcester, Waltham; Vice-President, Frederick Ellis Jones, Quincy; Secretary, Walter L. Burrage, Jamaica Plain; Treasurer, Arthur K. Stone, Framingham Center; Librarian, Edwin H. Brigham, Brookline; Orator, Francis W. Anthony, Haverhill. Proceeding to ballot, eighty-two ballots were cast, all for the ticket as brought in, and the officers and orator were declared elected.

The President nominated and the Council appointed these Standing Committees for the year 1920-1921:

STANDING COMMITTEES FOR 1920-1921.

ARRANGEMENTS.

C. H. Lawrence, Jr., *Chairman*, Donald Macomber, A. W. Reggio, J. B. Swift, K. G. Percy, F. J. Callanan.

PUBLICATIONS AND SCIENTIFIC PAPERS.

E. W. Taylor, *Chairman*, R. B. Osgood, F. T. Lord, R. M. Green, A. C. Getchell.

MEMBERSHIP AND FINANCE.

S. B. Woodward, *Chairman*, A. Coolidge, Jr., Samuel Crowell, Gilman Osgood, Homer Gage.

ETHICS AND DISCIPLINE.

J. W. Bartol, *Chairman*, Henry Jackson, T. J. Robinson, David Cheever, F. W. Anthony.

MEDICAL EDUCATION AND MEDICAL DIPLOMAS.

C. Frothingham, *Chairman*, C. F. Painter, J. F. Burnham, A. G. Howard, R. L. De Normandie.

STATE AND NATIONAL LEGISLATION.

Alfred Worcester, *Chairman*, F. G. Wheatley, E. H. Stevens, F. E. Jones, J. S. Stone.

PUBLIC HEALTH.

E. H. Bigelow, *Chairman*, Annie L. Hamilton, E. F. Cody, Victor Safford, R. I. Lee.

The President nominated and the Council appointed these delegates to the meetings of the House of Delegates of the American Medical Association for two years, from June 1, 1920:

C. E. Mongan, Somerville, Alternate, Gilman Osgood, Rockland.

H. G. Stetson, Greenfield, Alternate, L. A. Jones, Swampscott.

J. F. Burnham, Lawrence, Alternate, A. R. Crandell, Taunton.

Dr. Channing Frothingham read the report of the Committee on Medical Education and Medical Diplomas and also a report as delegate to the Annual Congress on Medical Education and Medical Licensure at Chicago, in March. The reports were accepted by vote. (See appendix for the reports.)

The report of the Committee on State and National Legislation was presented by the secretary, Dr. J. S. Stone, and was adopted. (See appendix for the report.)

Dr. E. H. Bigelow read the report of the Committee on Public Health and it was accepted. (See appendix for the report.)

The Librarian reported that he had attended to the various duties of his office during the past year. Report accepted.

The Secretary read the report of the Committee on the Control of Cancer and it was accepted. (See appendix for the report.)

A resolution passed by the Bristol South District Medical Society at its annual meeting, May 6, 1920, was read by the Secretary. (See appendix for the resolution.) No action.

Dr. F. B. Lund reported for the delegation of The Massachusetts Medical Society to the meeting of the House of Delegates of the American Medical Association at New Orleans, May 26 to 30, 1920. He said that the Executive Committee of the Board of Trustees of the Association was considering the exact dates of the meeting of the Association in Boston in 1921 (probably June 6 to 10) and that arrangements for that convention would be made in due time.

On motion by Dr. Victor Safford it was *Voted*: That the President be authorized to appoint a committee of three to attend the next meeting of the State Teachers' Association in order to confer with a committee of the Teachers' Association with a view to coöperation on the part of the teachers and the medical profession in promoting better health conditions in our schools. The President appointed as this committee: Annie Lee Hamilton, R. I. Lee, C. Benjamin Fuller.

Voted: That the President be authorized to appoint two members of the Society to represent the Society on the "Massachusetts Central Health Council." In accordance with this vote the President appointed E. H. Bigelow and Victor Safford.

Dr. A. K. Stone, chairman of the special committee on Health Insurance reported that the

committee had had one conference with the delegates of the Society to the House of Delegates of the American Medical Association just before the meeting of the Association at New Orleans, in order that the delegates might get information as to health insurance at first hand from the District Medical Societies. There had been no legislation on compulsory health insurance presented at the last session of the Legislature.

A proposition to amend Section 1, Chapter IV, line four, of the By-Laws by changing the word "chairman" to "members," so that all the members of the Standing Committees might be councilors instead of the chairman alone, was ruled out of order by the chairman after Section 45 as to amendments of rules of order, of "Robert's Rules of Order," the official guide of the Society, had been read by the Secretary, and also Chapter IX of the By-Laws of the Society, defining the manner of making amendments.

Adjourned at 1.55 P.M.

WALTER L. BURRAGE,
Secretary.

APPENDIX TO THE PROCEEDINGS OF THE COUNCIL.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS.

The Committee on Medical Education and Medical Diplomas has worked during the past year upon problems of medical education, and the admission of physicians who have held diplomas from schools which The Massachusetts Medical Society does not recognize to the examination before the censors of the several districts. In addition, a new list of recognized medical schools has been prepared for and adopted by the Council, and a subcommittee with Dr. De Normandie as chairman, assisted by Dr. Homer Gage of Worcester and Dr. Ernest L. Davis of Springfield, have made an elaborate study of the hospitals in the state, and turned in a report to the Council on Medical Education of the American Medical Association. This report is designed to show what hospitals in the state are suitable places for internes to put in a year in case such a requirement becomes necessary for the M.D. degree or for admission to practice.

The following physicians who have graduated from unrecognized medical schools have been admitted to examination before the censors:

Dr. Florence Bailey, Lawrence, Mass.
Dr. Joseph A. Smith, Worcester, Mass.
Dr. C. J. Mikolaitis, Lawrence, Mass.
Dr. Donat Milot, Fall River, Mass.
Dr. Ralph S. Chambers, Westboro, Mass.
Dr. Eugene S. Bellis, Worcester, Mass.
Dr. Halstead G. Murray, Framingham, Mass.

The Committee decided at its first meeting to take an active interest in the problems of medical education in this Commonwealth. For this purpose a joint meeting was held with representatives of the State Board of Registration in Medicine, of the three medical schools which are grouped in Class A by the classification of the American Medical Association, namely, Boston University, Harvard University and Tufts College Medical School, and from the Homeo-

pathic State Medical Society in order to discuss problems of medical education in this State. It was felt that some additional effort should be made to keep improperly trained physicians from practicing medicine in this Commonwealth, since it was felt that the present laws in regard to medical registration are not satisfactory for this purpose. After the discussion of several plans, it was decided to recommend to the Legislature a bill which would call for a pre-medical educational requirement in addition to an M.D. degree before permitting an individual to appear for examination for a license to practice.

The following extract from the bill shows the nature of the pre-medical requirement recommended:

"Graduation from a standard high or secondary school and satisfactory completion of at least two years of study in a college of liberal arts or scientific institute or school recognized as reputable by the department of education of this Commonwealth, which college of liberal arts, institute or school, has required not less than nine hundred and sixty hours of work during the said two years. An applicant who offers evidence of study under the provisions of this section must have devoted not less than one hundred and ninety-two hours to the study of physics, one hundred and twenty-eight hours to the study of biology and ninety-six hours to the study of English composition and literature."

All the medical organizations represented at this meeting were enthusiastic in support of this bill as it was felt that in addition to helping to protect the public from poorly trained physicians, it would protect individuals from entering schools which are unable to give them a proper medical education. At a subsequent meeting, in addition to the organizations represented at the first meeting, representatives of the Massachusetts State Osteopathic Society and the Massachusetts School of Osteopathy were invited and their support was also requested, because in accordance with the laws of Massachusetts, a man practicing osteopathy is practicing medicine and is subject to the same examinations that graduates of other schools are. The osteopathic physicians did not care to promise their support and subsequent developments before the Legislature showed that they were actively opposed to the bill.

The Chairman of your Committee acted as petitioner for this bill which had been prepared by the joint conferences and asked the support of your Committee on State and National Legislation. The bill was referred to the Committee on Public Health of the Massachusetts Legislature and received an unfavorable report. Two members of the Committee who seemed more intelligent than the others in regard to matters of medical education were in favor of the bill and so it was presented to the House despite the unfavorable report, but was defeated 71 to 15.

Despite this defeat, it was felt that an entering wedge has been made and the Secretary of the State Board of Registration in Medicine feels that a further effort should be made to pass a bill in regard to pre-medical requirements. Your Committee, therefore, is prepared next year to present to the Legislature a similar bill and asks your cooperation for more active support of this bill on the part of the members of this Society. It is felt that the Legislators naturally are not familiar with the importance of such a measure. It is also felt that a Legislator would naturally turn to his physician in regard to matters of medical education, and this Committee strongly urges that the attention of the members of the Society be called to the importance of supporting bills for the improvement of medical education in the Commonwealth and that strong pressure be brought to bear upon any member of this Society who is the family physician of a member of the Legislature to see that the importance of any bill concerning medi-

cal education be brought directly to the attention of the Legislature. The Committee feels that it is a disgrace to the Commonwealth of Massachusetts that two of the seven medical schools in the United States which have been classified as schools which need a thorough reorganization before they can properly teach medicine should flourish in this Commonwealth because of the inability of those interested in medical education to secure the passage of laws to bring these schools up to proper standards. Therefore your Committee feels that it is important for it to interest itself in these problems and to endeavor to stir up interest among all the well-intentioned medical interests of this Commonwealth.

The Chairman of your Committee went to Chicago to the meeting of the Annual Congress on Medical Education and Licensure of the American Medical Association and presents a separate report on what was carried out at that meeting.

CHANNING FROTHINGHAM, *Chairman*.

REPORT OF THE DELEGATE OF THE MASSACHUSETTS MEDICAL SOCIETY TO THE ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE.

The Annual Congress on Medical Education and Licensure was held in Chicago at the Congress Hotel, on March 1, 2, and 3, 1920.

The organizations represented at this congress were the Council on Medical Education of the American Medical Association, the Association of American Medical Colleges, and the Federation of State Medical Boards of the United States.

An innovation was tried this year in that a joint program was arranged with the idea of interesting all three of these organizations.

During the meeting a vote was cast, at the instigation of Dr. Kober, protesting against the passage of an anti-vivisection bill which was being urged before Congress in regard to vivisection in the District of Columbia.

A vote was passed in favor of compulsory military training. This vote was rushed through, with very little discussion, at the end of a long day's session and I doubt if it expressed the real feelings of many of the delegates. It was passed on the assumption that compulsory military training would be of great benefit to the health of the nation.

Dr. Wells reported a vote of the Council on Medical Research to the effect that it is exceedingly important to see that proper sums of money are raised in order to pay proper salaries to physicians who undertake work in the fundamental medical sciences, because, due to lack of proper remuneration, practically no individuals are undertaking this work and in a short time it will be impossible to secure professors to teach these subjects properly.

During the meeting considerable time was spent by the various speakers on the subject of whole time clinical professors. There were advocates in favor of the clinical professor limiting his work entirely to teaching and hospital work for which he should receive remuneration only in the form of a salary from the university. Others advocated allowing the so-called full time clinical professor to do a certain amount of private work for which he should receive remuneration. As a result of listening to all the discussion, it seemed to your delegate that a full time clinical professor should devote his time entirely to teaching, research, organization of the department and his public clinic and that, theoretically, such a teacher should receive no more financial return than the other full time professors in the various subjects taught in the medical school. Unfortunately, the universities apparently have not sufficient funds to pay all the professors and other members of the teaching staff which are necessary for a medical school, proper salaries; and therefore, it seems that the present time is not the proper one to start in

the organization of whole time clinical professors until the laboratory branches are properly equipped financially. If a university were properly endowed, it might be advisable to try the experiment of full time clinical professors on a distinct university basis, but if so, these men should be treated the same as the other full time professors. The various plans for approaching a basis of full time professors in the clinical branches which were suggested seemed to your representative to be wholly unfair to the laboratory professors.

A plea was made for shortening the time necessary for the preparation of a man for the practice of medicine, and it was felt that this could be done best by shortening the time in the grammar school, as it did not seem possible to leave anything out of the preparation for medical work or shorten the medical curriculum after that period. It was felt by the speaker that two years could be saved in our present curricula before the age of twelve.

The report of Secretary Colwell of the Council on Medical Education of the American Medical Association in regard to the diminution in the number of poor medical schools and the increase in the standards of the existing medical schools was very encouraging in that it showed that practically all the medical schools of the country were endeavoring to reach a proper standard.

At one of the sessions discussion about the reciprocity between state licensing boards was discussed and it was shown that the standards of the various states are still so variable that a definite standard cannot very well be established. It was felt, however, that it would be desirable eventually for a national standard to be inaugurated.

Excellent papers were also presented by the chairmen of the committees appointed to investigate the present methods of teaching the fundamental medical sciences in the medical schools of the Association. The facts were sought by means of questionnaires, in most cases, and the information thus obtained had been compiled by the committees, and from it recommendations made. There was nothing especially revolutionary recommended in regard to this teaching, but the outline of the best method for teaching the various subjects, in the opinion of the committees, was presented and it was pointed out that many schools of the Association had not yet reached this stage of perfection in their courses. There was some discussion as to the best method of instruction in certain of the subjects.

Considerable attention was also paid to the question of graduate instruction in medicine and it was felt that now was the time for this country to seriously organize for the teaching of graduates in medicine. It was felt that higher degrees should be given for this graduate instruction in medicine for those who wanted to pursue several years of study and that courses for practitioners who simply wish to keep up to date with the recent advances should also be arranged.

An excellent exposition of the duty of the state universities in regard to the problems of public health was presented. It was shown that not only should the state university busy itself with the turning out of physicians into the community, but that it should take an active part in the organization of the state in problems of preventive medicine and in the case of the chronically sick or disabled.

On the whole the meeting presented many live issues in American medical education and registration in medicine, the solution of which is not in each case perfectly clear as yet. Your delegate feels that as a result of this meeting there are no definite recommendations or instructions which should be given by this Society to your delegates to present to the House of Delegates of the American Medical Association in regard to the work being done by the Council on

Medical Education of the American Medical Association.

CHANNING FROTHINGHAM, *Delegate*.

REPORT OF THE COMMITTEE ON STATE AND NATIONAL LEGISLATION.

The Committee, pursuant to instructions from the Council, wrote to each Senator and Representative, endorsing the medical aspects of the bill before Congress providing for universal military training, and advocating the bill as tending to promote the health and physical well-being of the young men of the country. The bill was not enacted. The Committee also opposed the bill to forbid animal experimentation in the District of Columbia. No other matters of national legislation were considered.

Four matters of importance in state legislation were considered and acted upon by the Committee. These were: First, Vaccination; second, Pre-Medical Education; third, Physical Training of School Children; and fourth, Maternity Aid.

In reference to vaccination the Committee advocated the extension of compulsory vaccination to the scholars of private schools and opposed the bill to abolish compulsory vaccination in public schools. No legislation was passed.

The bill to provide that a knowledge of chemistry, physics, and biology be required as preliminary to the study of medicine was advocated. It was referred to the next General Court.

The bill for improving the physical training of pupils in the public schools was advocated in the session of the Legislature of 1920 and a similar bill was advocated in the closing days of 1919. Both bills were defeated.

On the various bills providing for maternity aid the Committee took no ground with reference to the general social question as it was felt that on this the medical profession was not fully united and was entitled to no special voice. On the medical aspects of the question, if legislation was to be enacted, the Committee advocated the bill providing that maternity aid be administered as a public health measure and not as a poor relief measure as some bills proposed. In the closing days of the session, the matter of maternity aid was left to the consideration of a commission of five who are to report at the special session of the Legislature which meets in November. This commission consists of the Commissioner of Health, the Commissioner of Public Welfare, and three members to be appointed by the Governor, one to be a physician and one to be a woman. Thus between the present time and November the medical profession has the opportunity to form opinions and to impress those opinions on the commission with reference to this very important question.

So far as accomplishment goes, the Committee reports absolute failure to secure any constructive legislation on any of the four main subjects to which it devoted attention. No destructive legislation, however, was passed.

Certain other measures were advocated by the Committee. One to permit the limited registration of internes and medical officers in hospitals was passed.

The Legislature also provided for the detention of prisoners suffering from venereal disease or tuberculosis until they ceased to be a menace to the public health.

These two measures are the only ones asked for by the medical profession which were passed.

The bills to lower the standard for registration of foreigners (the old Pang Suey bills) were defeated.

A bill to prevent the advertising of cures for venereal diseases was defeated, being opposed by the Joint Judiciary Committee.

A bill to provide for the licensing of attendants trained to care for the sick was referred to the next General Court. This bill deserves the most careful

consideration as one tending to solve some problems of hospital administration and at the same time providing proper care for the sick at their homes.

JAMES S. STONE, *Secretary*.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH.

The regular meetings of the Committee are held the last Monday in the month, at 10.30 A.M., at the office of the Secretary, Dr. Hamilton, 141 Newbury Street, Boston, Mass.

We gratefully acknowledge help received the past year in our work from the President and members of this Society and from citizens of the state.

The severe winter just passed has emphasized the need of placing adequate health agencies within reach of every home of the Commonwealth.

Last year exhausted "The Emmons Fund," which fund largely financed our work for four years. This year, through the generosity of this Society, we have received a grant of seven hundred dollars.

We ask you to bring to the attention of the Committee any need or any hopeful method of work which fairly comes within our field of action.

We continue to be indebted to speakers on public health matters who freely give their services to District Society meetings.

The Springfield Convention last fall was of a high order and was well attended by health workers, teachers, and citizens in the district. A program of the meetings is appended to this report. The success of the meetings was insured by the hospitality of the City of Springfield, the Chamber of Commerce, the School Department, and the manufacturers. Plans are being considered for a convocation this fall to be held in the city of Greenfield. We ask for the active interests of all physicians in Western Massachusetts in these meetings.

There has been recently formed in this state, the Massachusetts Central Health Council whose membership comprises a group of organizations with statewide interest in public health. The purpose of the Council is to promote cooperation among these organizations in the interests of the public health in this Commonwealth. The formation of the Central Health Council is the result of a wide-spread feeling that the voice of the united organizations engaged in the various fields of public health work would command the confidence of the citizens of the state.

In matters of health legislation the united opinion of these organizations, expressed through the Council, will, we feel, carry weight with the Legislature, and will help in promoting the enactment of wise health laws and in preventing unwise health legislation in this state. In the readjustment of public health work following the Great War, your Committee desires to cooperate with the State Department of Health in conserving the splendid spirit of service among our people called into action by the pressing needs of war.

ENOS H. BIGELOW, *Secretary*.

PROGRAM OF SPRINGFIELD CONVOCATION.

FRIDAY, NOVEMBER 21.

8 P.M.

Opening Session.

Addresses of Welcome from Dr. Enos H. Bigelow, Chairman of the Committee on Public Health; Dr. Alfred Worcester, President of The Massachusetts Medical Society; and His Honor, Arthur A. Adams, Mayor of the City of Springfield.

"The Health of the Commonwealth." His Excellency, Hon. Calvin Coolidge, Governor of the Commonwealth.

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"Better Health in Massachusetts." Dr. Eugene R. Kelley, State Commissioner of Health.

"The Program of the International Health Board." Dr. Victor G. Helsen, Director for the East, International Health Board.

SATURDAY, NOVEMBER 22.

MORNING.

Session on Personal and School Hygiene.

10.05 "Personal Hygiene the Basis of Health." Professor W. T. Sedgwick, Head of the Department of Biology and Public Health, Massachusetts Institute of Technology.

11.05 "The Dental Care of School Children." Dr. George H. Wright, Lecturer on Dental Hygiene, Harvard Dental School.

12.05 "Essentials of School Hygiene." Dr. Walter H. Brown, Health Officer, Bridgeport, Conn.

SATURDAY, NOVEMBER 22.

AFTERNOON.

Session on Industrial Hygiene.

2.05 "Industrial Health." Dr. Cecil K. Drinker, Secretary of the Governing Committee on Industrial Hygiene, Harvard Medical School.

3.05 "Public Health Nursing in an Industrial Community." Miss Mary Beard, Director of the Boston Instructive District Nursing Association.

4.05 "Good Air and the Health of the Worker." C. E. A. Winslow, D.P.H., Professor of Public Health, Yale University Medical School.

SATURDAY, NOVEMBER 22.

8 P.M.

Final Session.

"The Essentials of an Adequate Diet." Alice F. Blood, Ph.D., Head of the Department of Household Economics, Simmons College, Boston, Mass.

"Lessons from the Framingham Health Experiment." Dr. P. C. Bartlett, Chief Medical Examiner, Community Health and Tuberculosis Demonstration, Framingham, Mass.

"Rural Sanitation in the North and South." C. W. Stiles, M.D., U. S. Public Health Service, Washington, D. C.

"The Relation of Feeble-mindedness to Public Health." Dr. Walter E. Fernald, Superintendent, Massachusetts School for Feeble-minded.

REPORT OF THE COMMITTEE ON THE CONTROL OF CANCER.

The Committee on the Control of Cancer desires to make the Council a report on its work of the last year.

Its Secretary has kept in close touch with the secretaries of the District Medical Societies, with the result that the following societies have held, or are to hold, meetings on cancer: Dr. Frederick Bryant, of Worcester, Dr. C. Everett Field, of New York, and Dr. Edward Reynolds addressed a meeting held in Worcester, Sept. 10, 1919. Dr. Robert B. Greenough addressed the Essex South District Medical Society at Gloucester, Jan. 6, 1920. He also addressed the Berkshire District Medical Society, Jan. 8, 1920. Dr. D. F. Jones was the speaker at the Franklin District Medical Society, Jan. 12, 1920. Two meetings were held on Jan. 14, 1920,—one addressed by Dr. Frederick Bryant, of Worcester, the Hampshire District Medical Society; the other, the Suffolk District Medical Society, addressed by Dr. F. C. Wood, of New York. Dr. Frederick Bryant, of Worcester, addressed the Hampden District Medical Society on Jan. 20, 1920. Dr. Lincoln Davis addressed the Middlesex North

Society, Jan. 28, 1920. Dr. E. L. Young, Jr., was the speaker at the Bristol South District Medical Society, May 6, 1920. Two meetings were arranged on Feb. 5, 1920, but were postponed on account of the storm—the Norfolk South District, at which Dr. Lincoln Davis was to speak; the Barnstable District Medical Society, at which Dr. John T. Bottomley was to speak.

The Bristol North Society and the Middlesex South Society have arranged for meetings in September and October. Three societies—the Essex North, the Middlesex East, and the Norfolk—had arranged their meetings for the year before our Committee communicated with them, but they will be followed up next year.

Largely owing to the efforts of a member of your Committee, the State Commissioner of Health undertook the entire matter of distributing to the practitioners of the state the exhaustive pamphlet on cancer which was addressed to the profession of the country by the American Society for the Control of Cancer, and which was published jointly by that society and the American Medical Society. Your Committee was, therefore, not obliged to draw upon the money which was granted it at a time when it was thought we must undertake a part of this expense.

The Committee has kept in constant touch with the state organization of the American Society for the Control of Cancer, with its cancer interests as involved in the newly formed Massachusetts Health Council, and with a variety of other agencies which are concerned in such work. It believes that the present activity of the anti-cancer campaign is sure to yield results and is interested and willing to do its part in the future as well as in the past.

EDWARD REYNOLDS, *Secretary.*

RESOLUTION PASSED BY THE BRISTOL SOUTH DISTRICT MEDICAL SOCIETY AT ITS ANNUAL MEETING, MAY 6, 1920.

Resolved that the Bristol South District of the Massachusetts Medical Society considers the passage by State, or Nation, of paternalistic laws as class legislation and an infringement of the rights of individual citizenship.

It further considers as pernicious and unfair and as tending to universal socialism the passage of such laws.

For these reasons and for the further reason that it has at heart the best interests of the Nation and this Commonwealth it opposes strenuously any legislation favoring so-called health insurance, compulsory or voluntary, in all its various forms, including the maternity bill now before the Legislature.

Resolved that a copy of this resolution be sent by the Secretary to the Council of the Massachusetts Medical Society and to each legislator in this District.

APPOINTMENT OF DR. BENJAMIN WHITE.—

Dr. Benjamin White has been appointed Director, Division of Biologic Laboratories of the Massachusetts State Department of Public Health to succeed Dr. Milton J. Rosenau, resigned. Dr. White has also been appointed Lecturer of Immunology in the Massachusetts College of Pharmacy and Assistant in the Department of Preventive Medicine and Hygiene of the Harvard Medical School.

